United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with the
Research Division of the
College of Agricultural and
Life Sciences, University of
Wisconsin

Soil Survey of La Crosse County, Wisconsin

Subset of Major Land Resource Area 105

Where To Get Updated Information

The soil properties and interpretations included in this survey were current as of November 2004. More current information may be available from the Natural Resources Conservation Service (NRCS) Field Office Technical Guide at Onalaska, Wisconsin, or online at www.nrcs.usda.gov/technical/efotg. The data in the Field Office Technical Guide are updated periodically.

More current information may also be available through the NRCS Soil Data Mart Web site at http://soildatamart.nrcs.usda.gov or the Web Soil Survey at http://websoilsurvey.nrcs.usda.gov/app.

Additional information about soils and about NRCS is available through the Wisconsin NRCS Web page at www.wi.nrcs.usda.gov.

For further information, please contact:

USDA, Natural Resources Conservation Service
Onalaska Service Center
1107 Riders Club Road
Onalaska, WI 54650-2079
Phone: 608-782-0180

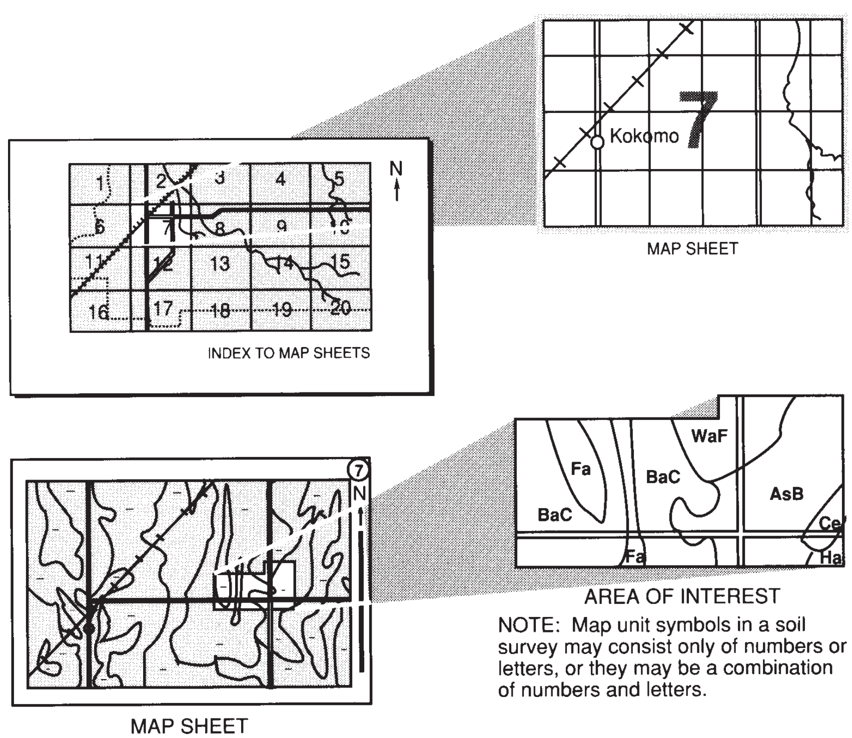
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Research Division of the College of Agricultural and Life Sciences, University of Wisconsin. It is part of the technical assistance furnished to the La Crosse County Soil and Water Conservation District. The survey was partially funded by the La Crosse County Board of Commissioners.

Major fieldwork for this soil survey was completed in 1999. Soil names and descriptions were approved in 2001. The manuscript was compiled in 2004. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2004. The most current official data are available on the Internet.

Nondiscrimination Statement

Caption for Cover Photo

View from St. Josephs Ridge looking north to the confluence of Bostwick Creek and the La Crosse River. This is a typical upland coulee in La Crosse County with steep forested backslopes, a mix of forested and cultivated footslopes, and the less sloping, cultivated stream terraces below.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued 2006

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Patricia S. Leavenworth
State Conservationist
Natural Resources Conservation Service

Soil Survey of La Crosse County, Wisconsin, Subset of Major Land Resource Area 105

By Duane T. Simonson, Natural Resources Conservation Service

Fieldwork, landscape interpretation, data development, map compilation, and correlation by Duane T. Simonson, Joe Jahnke, Donna E. Ferren Guy, Phillip D. Meyer, Matt R. Otto, and Guyon D. Shipman, Natural Resources Conservation Service

Digitizing completed under the direction of the Madison, Wisconsin, digitizing unit, Natural Resources Conservation Service

Manuscript compiled by Donna Ferren Guy

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Research Division of the College of Agricultural and Life Sciences, University of Wisconsin

How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Area 105, Northern Mississippi Valley Loess Hills. The majority of MLRA 105 occurs in Wisconsin (fig. 1). The MLRA is made up of all or parts of 21 counties in western Wisconsin, 7 counties in southeastern Minnesota, 9 counties in northeastern Iowa, and 4 counties in northwestern Illinois.

Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA, 1981). La Crosse County is a subset of MLRA 105. Map unit design is based on documentation of the occurrence of the soils throughout the MLRA.

The information in this survey includes a brief description of the soils and miscellaneous areas and interpretive tables showing soil properties and the subsequent effects on suitability, limitations, and management for specified uses. During the fieldwork for this survey, soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landscape or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a

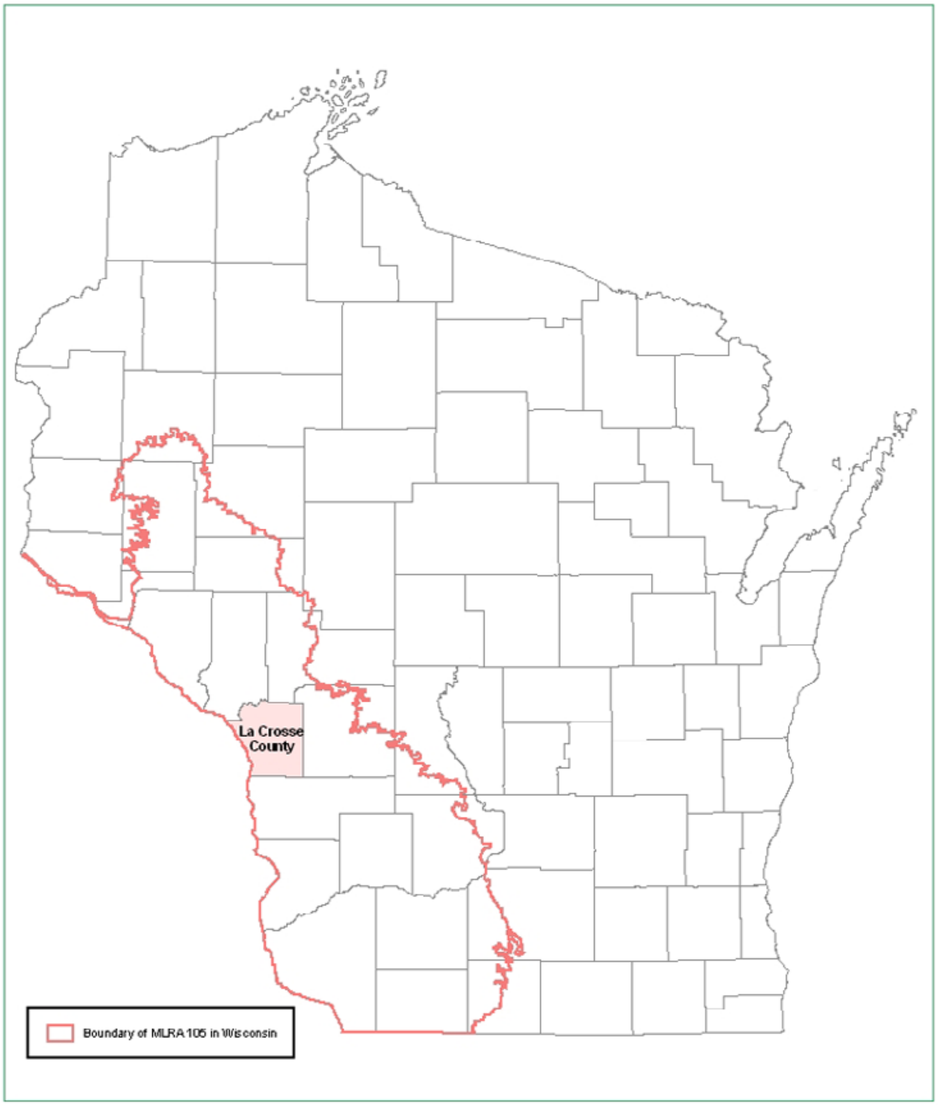


Figure 1.—Location of La Crosse County and MLRA 105 in Wisconsin.

considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they observed. The maximum depth of observation was about 80 inches (6.7 feet). Soil scientists noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units).

Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Interpretations are modified as necessary to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a zone in which the soil moisture status is wet within certain depths in most years, but they cannot predict that this zone will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

In some parts of the survey area, the soil scientists were denied access. The reliability of information on the maps in these areas is limited, since the soil lines were projected using remote sensing techniques.

This soil survey updates the survey of La Crosse County published in 1960 (Beatty, 1960). It provides additional information and has larger maps, which show the soils in greater detail.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in the earlier survey of La Crosse County or with those of adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

The maps and soil descriptions in the 1960 survey were used as a reference for developing new soil map units and for planning soil transects. Before the fieldwork was begun, black-and-white aerial orthophotographs, taken in the spring of 1995, and color aerial photographs, taken in the spring of 1996 and enlarged to a scale of 1:12,000, were studied. Soil scientists studied U.S. Geological Survey topographic maps to relate land and image features. Sample areas were selected to represent the major landscapes in the county. These areas were investigated more closely than the rest of the county. Extensive notes were taken on the composition of map units in these preliminary study areas.

Most areas required remapping, especially where the previous depth of observation did not describe important underlying soil materials, including bedrock, perched and

apparent water tables, and contrasting textures. Adjustments of slope lines were made as a result of improvements in aerial photography and because some slope class ranges used in the past were too wide for current uses.

General Nature of the Survey Area

This section provides some general information about La Crosse County. It describes history and development, agriculture, and conservation of natural resources.

History and Development

By Samuel J. Skemp, Jr., district conservationist, Natural Resources Conservation Service

Archeologists have discovered artifacts in La Crosse County that range from 10,000 to 12,000 years old. The “Paleo Indians” (10,000 B.C. to 8,500 B.C.) who left these traces behind were the first human inhabitants of this area, but evidence points to only a scattered and nomadic existence. During the following 10,000 years, Native American populations steadily increased. Archeologists now believe that by the 14th and 15th centuries, Native American settlements, such as those of the Oneota in La Crosse County, were farming certain areas near the Mississippi River almost as intensively as modern-day farmers.

French explorers and traders moved through the area in the 1700s. They named the area “La Crosse” after observing one of the Native American games. The French had jurisdiction over the area until 1763, when the English gained control. The United States had possession of the territory by 1783.

Permanent European settlers began to arrive in the 1840s, at first mainly to trade goods with Native Americans but eventually settling into small groups that began clearing land for agriculture. One of these settlements was established in 1843 in an area now known as “Mormon Coulee” near what is now the city of La Crosse.

The original county of La Crosse was established in 1851 and included either all or parts of the present-day La Crosse, Monroe, Jackson, Trempealeau, Clark, Buffalo, and Taylor Counties. It was reduced to its present size by 1857, at which time the population included 12,000 people. The population was more than 42,000 in 1900, and by 1950 it had increased to almost 68,000. The estimated population in La Crosse County in 1997 was 104,409 people living within the six incorporated communities and twelve townships that now make up the county.

Prosperity progressed in the area as a result of early lumber resources, trade and commerce generated by the Mississippi River, and the fertile alluvial bottom land and loess-covered ridgeland soils. Local products were soon being shipped by steamboats on the Mississippi River, and by 1858, La Crosse was connected by railroad to major cities, such as Chicago and St. Paul.

Lumbering was no longer a significant industry in the area by 1900, but by that time other manufactured goods and commodities, such as milk, apples, hops, barley, wheat, tobacco, and corn, were being shipped to other areas. Gradually, La Crosse became a hub for freight and commuter trains, and several highways, such as Highways 16 and 35, made La Crosse a focal point in southwestern Wisconsin.

By the mid-1900s, La Crosse County had nearly 200 manufacturing establishments, most of which were in the city of La Crosse. More than 9,000 workers were employed by these companies, which produced clothing, agricultural equipment, plastic and rubber goods, beer, and air-conditioning and heating equipment. Employment opportunities also increased as La Crosse became a regional medical and educational center with two major clinics and hospitals and three post-secondary educational institutions.

In the 1990s, La Crosse County continued to thrive as a source for employment, commerce, tourism, and general retail and agricultural trade. Although those who

originally settled and began development of La Crosse County in the 1800s were largely European, the county is now home to many cultures, including Native Americans, African Americans, the Hmong, Vietnamese Americans, and many others. Diversity in trade, resources, nature, and ethnic backgrounds has been a key part of La Crosse County's success in continued growth and in its vision for the future.

Agriculture

During the last few decades, a number of small family-operated dairy farms in La Crosse County have dissolved and been replaced by larger dairies or cash-grain operators. Dairying is still the most common farm enterprise in the county. In 1997, approximately 200 herds (more than 14,000 cows) produced more than 200 billion pounds of milk.

There were approximately 920 farms in La Crosse County in 1997, averaging just more than 200 acres in size. Many are dairy farms, but other farms produce beef, hogs, cash grains, ginseng, timber, or vegetables and fruits or consist of acreage enrolled in the Conservation Reserve Program. Small grain production was once popular, but it is now mainly limited to oats and barley, which are commonly used as nurse crops for alfalfa.

Nearly 60,000 acres of various crops is harvested in La Crosse County each year. This number has remained fairly steady during the last decade but is considerably less than the 90,000 acres that was harvested as recently as the 1950s. This decrease is a result of several factors, including the Conservation Reserve Program, reforestation or pasturing on steeper lands, and the work several agencies have done during the last several decades with local farmers in an effort to make prime farmland more profitable while promoting other less degrading uses on the steeper tillable land in the country.

Conservation of Natural Resources

By the 1920s, many area farmers had begun to recognize the damage that was being done to the fragile soils in the country. Short rotations that included several years of small grain crops were commonly planted even on the steepest tillable land. The formation of massive gullies and the vast erosive movements of soil off the hills and ridgetops had begun by the late 1800s. Valley streams were filling with sediment, and valley bottom cropland was being capped by layers of the displaced soil. Flash flooding was also becoming common as a result of intensive cultivation and overgrazed pastures and woodlands.

While many farmers began to take steps on their own to prevent these problems, the complex and widespread difficulties that producers were facing eventually drew the attention of scientists and politicians. In 1931, the Soil Conservation Experiment Station at La Crosse was established with State and Federal funding. This station began measuring soil erosion losses under various farming conditions and began trying different methods of controlling erosion.

Many of the practices tested at the station were put to use in 1933 when the Soil Conservation Service started the Coon Valley Erosion Control Demonstration Project in the Coon Creek Watershed. This project became a landmark in the history of soil conservation and was the first of its kind in the country. Extensive work was done on several farms in the watershed (in southeastern La Crosse County and parts of Monroe and Vernon Counties) through the help of engineers, technicians, and hundreds of Civilian Conservation Corps workers, who built many erosion-control structures and helped establish conservation practices, such as contour stripcropping, which still exist today.

Conservation began to rapidly expand through La Crosse County, and in 1939, the Bostwick Creek Soil Conservation District was organized. This district was later

enlarged to include all of La Crosse County and became the local administration entity that oversaw efforts to put conservation practices in place across the country.

During the 1940s and 1950s, programs to help farmers increase productivity and reduce the hazard of erosion became increasingly available as the district joined forces with the University of Wisconsin Extension, the Soil Conservation Service (SCS), and the Wisconsin Conservation Department, now the Department of Natural Resources (DNR). Two Public Law Watershed Project dams were built in La Crosse County in the 1960s. These were built mainly as flood- and erosion-control structures. Some were large "dry dams," but others built in neighboring Vernon and Monroe Counties created large lakes that also offer recreational benefits to the area.

Through the 1970s and 1980s, traditional conservation efforts went on as resource conservation plans continued to be applied to the land. New efforts to work on urban runoff problems gained more attention, and conservation planning took on a new twist with the passing of the 1985 Federal Farm Bill. This bill required all farmers to implement a conservation plan on their farm if they hoped to continue participating in any of the USDA farm programs. As a result of the Farm Bill, many farmers who had not made an effort to conserve the soil in the past were now following more conservative crop rotations, were laying out newer contour strips, and were commonly doing more conservation tillage.

No-till and mulch-tillage technology had begun to take off in the Midwest by the 1970s. These early efforts, combined with the Farm Bill requirements, led to a large shift towards conservation tillage in the 1980s. Today, more than 75 percent of La Crosse County's cropland is better preserved through the use of conservation tillage and no-till.

The lower Black River Watershed gained special attention during the 1980s. This watershed was selected by the DNR in 1983 as one of eight projects in Wisconsin. Funds were made available to put in place an effort to control nonpoint source pollution. Animal waste and erosion-control structures and practices were emphasized, and by the end of the project in the early 1990s, dozens of farms had participated. During the last decade, soil conservation efforts have remained strong in the county. As much as 12 percent of the county's cropland is enrolled in the Conservation Reserve Program. Other Federal programs provide financial incentives for farmers interested in installing conservation practices on their land.

Urban erosion-control efforts became a priority in the county in 1992, when the Land Conservation Department initiated and became the administrative entity of the Erosion Control Land Disturbance Ordinance. This ordinance requires an erosion control permit for any land disturbance activities in the county that meet the requirements specified in the ordinance. The ordinance also helps protect the scenic beauty of the area by restricting any development to land that has slopes of less than 30 percent. This ordinance has become especially important as urban expansion in La Crosse County continues.

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

Formation of the Soils

Soil is produced by the action of soil-forming processes on materials deposited or accumulated by geologic forces. The characteristics and properties of soil in a given area are determined by (1) the physical and mineralogical composition of the parent material; (2) the climate under which the soil material has accumulated and existed since accumulation; (3) the living organisms on and in the soil; (4) the relief, or lay of the land; and (5) the length of time the forces of soil formation have acted on the soil material. The relative effect of each of these factors is reflected in the soil profile.

The interaction of these factors during the transformation of the parent material into soil generates complex physical, chemical, and biological processes causing minerals to become weathered and organic matter to accumulate. Material in suspension or in solution moves downward through the soil to form definite layers, or horizons, in the soil. These layers—surface layer, subsurface layer, subsoil, and substratum—are defined in the Glossary.

In La Crosse County, differences in parent material, vegetation, relief, and time account for most of the differences among the soils. Climate is fairly uniform throughout the county.

All five factors of soil formation are interrelated. A change in one factor influences the effects of the other factors. The following paragraphs describe the factors of soil formation as they relate to the soils in the survey area.

Climate

Climate influences soil formation by providing moisture and heat necessary for the weathering of parent material. Water dissolves soluble materials and transfers nutrients to the lower parts of the soil. Water also is needed to alter minerals to clay and transfer the clay to the lower layers. Reaction, or pH, is largely influenced by climate. Temperature affects the rate at which chemical reactions proceed. Chemical reactions are slower at freezing than at a higher temperature. Moisture and temperature affect the kinds of plants that grow on the soil. Further organic matter accumulation and decomposition are influenced by moisture and temperature and by vegetation.

The effects of climate are modified by landscape setting and parent material. Relatively large amounts of water are available for soil-forming processes in loess on the hill summits. Little is available for plants in outwash on the valley trains, where much of the rainfall passes through the soil rapidly or where slopes are steep and water runs off quickly.

Climate may not remain constant throughout the development of the soil. When drastic climate changes take place, soil-forming processes most likely are altered and a new cycle of soil formation begins. These climate changes can modify the time factor, as the age of the new soil development must be measured from the beginning

of the climatic change. La Crosse County's oldest landscapes have most likely seen several climatic changes and gone through several cycles of soil formation.

Wind can affect the development of soil by adding or removing fine particles of soil or organic matter. It affects the moisture content of soils by influencing the rate of evaporation.

Climate can also have more localized effects. For example, north- and east-facing slopes tend to be cooler and wetter than south- and west-facing slopes. Depressional areas generally have cooler temperatures for a longer part of the year than summits and slopes of hills.

La Crosse County has a cool, subhumid continental climate that favors the growth of trees and the formation of leached, acid soils with a thin, dark surface layer and a clay-enriched subsoil. Present climatic differences within the county are too small to have resulted in major differences among the soils.

Living Organisms

Living organisms, both plants and animals, affect soil formation by providing organic matter and transferring nutrients from the lower layers of the soil to the upper layers. Plants influence the development of specific layers in the soil. Vegetation influences the rate at which clay is transferred from the surface layer to the subsoil. Plants and animals are related to other factors of soil formation, such as soil microclimate, parent material, and landscape setting, all of which collectively can determine the vegetation that grows on a soil.

At the time of settlement, forests covered most of La Crosse County. Mean annual precipitation is sufficient for the growth of trees on any of the soils; however, natural fires on some soils, such as Finchford soils, were common and helped to maintain the grass vegetation. Native Americans who lived in the area and used these soils also used fire to maintain grass vegetation for ease of cultivation and for attracting game animals. When protected from fire, these soils would follow a succession from grass and forbs to shrubs and finally to oak and pine forest. Many soils on the broad valley trains of the Mississippi River formed under tall grass prairie. Areas between the prairies and the deciduous forests were called savannas.

The most striking feature of a prairie or savanna soil profile is the deep layer of organic matter accumulation—commonly 15 inches or more—and the somewhat darkened subsoil beneath. Examples of this process are the thick, darkened A horizons in the Finchford soils. Prairie soils contain as much as 120 tons of organic matter per acre, compared with 70 tons per acre for forested soils. A dense network of grass roots fills the profile, and most of the roots extend to a depth of 5 to 7 feet. Forb roots of various shapes and lengths are interspersed; some penetrate to a depth of 20 feet. In contrast to forest soils, where organic matter enters the soil from the surface and must be "plowed in" by earthworms, the organic matter deeply incorporated in prairie soils comes from the roots as they decay in place. There is little input from litter at the surface.

Mound-building ants play an important role in the development of prairie soils. They mix and aerate the soil as they build their tunnels and bring up nutrients and clay particles from the subsoil. Their activities increase the levels of potassium and phosphorus in the topsoil.

When a prairie burns, nitrogen in the litter is oxidized and escapes from the prairie ecosystem. Nitrogen is returned to the system through nitrogen-fixing bacteria in the root nodules of the plentiful prairie legumes and also through free-living nitrogen-fixing bacteria in the root zones of the prairie grasses.

It was the deep, rich prairie soils that eventually led to the nearly total conversion of tall grass prairie to agricultural crops (Packard and Mutel, 1997).

Topography

Topography is an important factor in soil formation because it affects drainage, aeration, and erosion.

Because topography influences runoff and drainage, it can affect the types of vegetation present and the chemical changes on and in the soil. Soil profile development occurs most rapidly on well drained, gentle slopes. Profile development is very slow on steep slopes, where runoff is rapid, the rate of water infiltration is slow, and geologic erosion removes the surface soil almost as quickly as it forms. Excessive runoff reduces the amount of water that is available for leaching the soil and for use by plants, and it can increase the hazard of erosion. Topographic position on the landscape affects the drainage class of the soil. Drainage has a distinct influence on soil formation.

Differences in topography can account for the formation of different soils in similar kinds of parent material.

Parent Material and Landscape Evolution

Robert W. Baker, Ph.D., geologist, University of Wisconsin-River Falls, and Kent M. Syverson, Ph.D., geologist, University of Wisconsin-Eau Claire, helped prepare this section.

Parent material largely determines the physical and chemical properties of the soil, such as the capacity or ability of the soil to store water and nutrients for plants and the rate at which water can pass through the soil. In La Crosse County the soils formed in a wide variety of parent materials. The evolution of the landscape played the major role in the resultant parent materials.

Ancient Seas.—The ridge-and-valley landscape of La Crosse County is the eroded remnants of an ancient plain that covered Wisconsin and the adjacent states. The development of the ridges and valleys from the ancient plain has spanned eons of time. Geologists divide this time frame based on rock mineralogy and fossils. A sequence of events through these eons of time shaped the present-day landscape.

About 540 million years ago, a series of shallow seas began to invade or transgress the low-lying parts of the continent. The onset of this invasion marks the beginning of the Cambrian Period, the earliest part of the Paleozoic Era.

Later, during the Ordovician Period of the Paleozoic Era, another invasion of the sea took place and about 70 percent of North America was under water. During Cambrian and Ordovician time, streams carried upland sediment to the seas. The kinds of minerals and particle size of the sediment were dependent upon the chemical and physical makeup of the upland material and on the nearness to the mineral source.

The source probably varied with time as surrounding lands were elevated or lowered by subsidence or erosion (Austin, 1972). During the Cambrian, dominantly sandy sediment was deposited. Clastic sediment supply decreased during the Ordovician period, so the sediment was characterized dominantly by the deposition of limy mud, a mixture of minerals and the remains of teeming plant and animal life. Mollusks, brachiopods, corals, and crinoids, animals that build calcium-carbonate skeletons, were common.

The sediment was cemented and compressed into rock. The sandy sediment formed sandstone, and the limy mud formed limestone, dolostone, or shale.

Pre-Illinoian Ice Age.—The Pleistocene Epoch, known as the ice age, is a more recent major geological event that helped to shape the present-day landscape. During this period, ice fields formed in the polar and mountainous regions and glaciers advanced several times into western Wisconsin (Attig, 1993). This pre-Illinoian glacial history is sketchy because of erosion and truncation of deposits by later glacial events, postglacial erosion, and limited exposures of glacial deposits. The earliest known glacial advance in western Wisconsin was from the west and has been called the

Reeve Advance (Johnson, 1986). During the Reeve Advance, the Des Moines Lobe flowed eastward from Minnesota into western Wisconsin. The minimum extent of the ice is defined by the eastern boundary of tills of the Pierce Formation. The Reeve Advance occurred during pre-Illinoian time at least 460,000 years ago and possibly as much as 770,000 years ago (Baker and others, 1983).

Recent research in Wisconsin and Minnesota indicates that the deeply incised valley of the Upper Mississippi River and its adjacent tributaries were in existence well before mid-Pleistocene time. Stratigraphic relationships and uranium-series and paleomagnetic dating strongly suggest that the deep landscape incision had already occurred prior to the occurrence of the first glaciers in this region (Baker and others, 1997).

Illinoian and Wisconsinan Glaciation.—The next glacial units observed in west-central Wisconsin were deposited by the Superior and Chippewa Lobes during the Illinoian and Early Wisconsinan Glaciations. This major episode of glacial advance was followed by glacial retreat, a period of weathering, and then several episodes of Late Wisconsinan Glaciation.

Even if these ice advances never reached La Crosse County, the frigid glacial climate undoubtedly accelerated erosional processes in the area. Permafrost is believed to have persisted in central Wisconsin during the last part of the Wisconsinan Glaciation, when the Laurentide Ice Sheet stood at its maximum extent. Permafrost resulted in arrested soil development and accelerated erosion of the landscape well beyond the ice sheet. Since the end of permafrost, the landscape has been relatively stable. The landscape continued to be modified, however, by many geomorphic processes (Attig, 1993). Valleys continued to widen, deepen, and lengthen. Streams continued to carve their way headward into the landscape. They intercepted many solution cavities in the dolostone layers. Rock was easily removed from these settings. Gravitational forces along with water carried the rock downslope, reducing the fragments from stones and boulders to cobbles and pebbles. This cobbly loamy colluvium is coarser textured and thinner near the shoulder slope and is finer and thicker where deposited near the footslopes. Dorerton soils are associated with loamy colluvium derived from dolostone on steep backslopes.

Resultant Bedrock Landscape.—The remaining bedrock-controlled plain, or Prairie du Chien surface, is the uppermost surface in the county. The only remaining member of the Prairie du Chien Group, the Oneota dolostone, forms the bedrock surface at the highest elevations on the landscape.

The Prairie du Chien surface is mantled, in most areas, with a dominantly reddish, clayey pedisediment that is thickest on the ridgetops and becomes thinner downslope. The pedisediment is believed to be derived from the weathering and associated erosion of the bedrock surfaces above the Prairie du Chien during the long period of time between the retreat of the seas and the onset of the glacial age. It is likely that during glaciation of the surrounding area the permafrost altered this clayey material. Texture is extremely variable, ranging from sandy to very clayey. The sediment contains an abundance of chert channers and flagstones. Valton and Brinkman soils are associated with the dolostone and the clayey pedisediment.

The Oneota Formation and the underlying Upper Cambrian sandstones and siltstones—the Jordan, St. Lawrence, Lone Rock, and Wonewoc Formations—are the influential bedrock types in the county. Where ridges are thinly capped by the more resistant Oneota dolostone and underlain by the softer Jordan sandstone, the tops are narrow, craggy, and castellated and the valleys tend to be V-shaped. Gaphill and Rockbluff soils are associated with the Jordan sandstone. Where the ridges are capped by the relatively soft Lone Rock sandstone and siltstone, the crests are broad and well rounded and the valleys are a mile or more in width. Greenridge and Norden soils are associated with the Lone Rock sandstone and siltstone.

Sandstone of the Wonewoc Formation occurs at the lower elevations on hills, mainly in the Back River Valley. Soils associated with the Wonewoc sandstone formation are Boone and Elevasil soils on hills and Tarr soils on pediments.

Dry Winds.—Another significant landscape modifier was wind. During the latter stages of the most recent ice age, called the Wisconsin stage, intense winds carried loess onto the landscapes. On hillslopes the Peoria Formation, deposited between about 14,000 and 25,000 years before present during the last glacial advance in the Upper Mississippi valley (Leigh and Knox, 1994), is typically the dominant unit. The Middle Wisconsin Roxanna loess has also been identified in the county (Leigh, 1991; Evans, 2003). The mostly silt-sized particles were deposited on the deeply dissected land surface much like a blanket of snow during winter storms. The unweathered basal portion of the Peorian Formation is massive and calcareous, and the weathered upper portion is leached and noncalcareous (Leigh and Knox, 1994). Loess is generally coarsest and thickest near large river valleys, and it becomes finer and thinner with increasing distance from the valleys. The main source of the loess was the valley floors of the Mississippi River and its tributaries (Ruhe, 1969). The loess can be more than 6 feet thick, or even thicker, on the broader summits and wide valleys near the main sources and becomes thinner as ridges and valleys narrow and slope increases. Timula soils have the coarse silts and are calcareous in the upper part. Seaton soils formed in very deep loess, where leaching occurred deeper in the profile. Where slope gradient and width of ridges are equal, the loess is thinnest on northwest aspects and thickest on southeast aspects.

Wind also moved the coarser, sand-sized particles into dunes in places on the valley trains where air currents were able to generate sufficient energy. Chelsea and Brice soils formed in eolian sand on dunes on the Mississippi River terrace.

Melting Ice.—During the latter stages of the Pleistocene, which ended about 9,500 years ago, massive ice fields to the north and west melted. Torrential flows of meltwater swelled streams that served as meltwater outlets. The Mississippi River carried the meltwater from receding ice sheets. Large quantities of gravel and sand carried from the ice fields were deposited as outwash, forming the valley trains. Later successive river incisement left these coarse textured materials as terraces. Finchford soils are associated with these valley train terraces. The oldest terraces may be mantled by younger sand dunes and thick eolian sand sheets in the main valley.

In some smaller tributaries, terraces at similar elevations formed from much finer material through a unique process. Sediment aggradation from glacial meltwaters in the adjacent Mississippi River channel hydraulically dammed tributary mouths. This damming resulted in periodic flooding of the lower reaches of the tributaries, between about 18,000 and 13,000 years before present, creating slackwater conditions. During this same period the loess blanket covering the sediment on the ridges and footslopes was partially stripped by erosion. Much of the eroded loess was deposited in valleys below as a thin layer, mostly of silt. Also during this period, large floods produced by glacial lake outbursts passed down the Mississippi Valley repeatedly, backflooding the lower reaches of tributaries and adding to the slackwater conditions in the tributaries (Bettis and others, 1992). Superior Basin source floods carried distinctive reddish brown silty clays, but western source floodwaters did not. Alluvial deposits underlying the tributary-valley terraces are predominantly laminated and thinly bedded silt that, in areas closer to the major river channel, is interbedded with sand. The dominance of silt reflects the significant contributions from local loess deposition on adjacent landscapes and slope erosion as well as the large silt load of the glacier-fed rivers. Beds of reddish brown clay are commonly interstratified with the silt. These clays may be a result of the Superior Basin source floods, the clayey pedisediment present on the nearby ridgetops, or both. Medary soils are underlain by slackwater deposits.

The lower, younger terraces are dominantly sandy and gravelly outwash in the Mississippi Valley. Some swales and paleochannels on the terrace surface have a

veneer of finer textured sediment that may be overbank deposits from later floods (Bettis and others, 1992). Dakota and Rasset soils formed in silt or loam alluvium over outwash.

Stream Cutting.—When the glacial ice retreated and the sediment-laden torrential flows ceased, the water level in the Mississippi River and its tributaries fell and a new incisement cycle, enhanced by a much-reduced sediment load, began in the valleys. Tributary streams cut into their flood plains, adjusting to the lowered water level of the Mississippi River. In a relatively short time period, a large portion of the flood plains of glacial times was removed. Narrow, dissected terraces, mere remnants of the original valley train, are all that remain. Plainfield soils formed on the narrow, very steep, elongated terrace risers.

Recent Deposition.—During the past 9,500 years, sediment has continually been deposited on the floor of flood plains. However, a dramatic change in the environment took place about 150 years ago. Agricultural practices of the European settlers destroyed the protective covering of sod and forest litter and accelerated erosion processes. In some drainageways this post-settlement alluvium is quite significant. Deposits of 2 to more than 5 feet of alluvium are common. Arenzville and Orion soils formed in post-settlement silty alluvium.

Time

Time is required by climate, by plants, and by animals to form soil from the parent material. Various soils have developed over periods of time ranging from a few years to many thousands of years. The effect of time on soil is modified by all the other factors of soil formation.

The length of time in which soils are exposed at the surface is a modifying factor in soil formation. Soils can be no older than the age of the landscape surface upon which they form (Ruhe, 1975). Not all of the soils that form the surface of the landscape in La Crosse County are the same age. Landscapes erode back from their base level along streams and rivers to near the landscape summit. The summit remains stable, little affected by erosive forces. Where carbonates were present in the loess, they are typically deeply leached, and the soils are well developed and are relatively older than the soils downslope. Downslope erosion over long periods of time has exposed fresh material. The Lone Rock sandstone, for example, was exposed to weathering much later in time than the sediment overlying the Oneota dolostone formation several hundred feet higher on the landscape. Norden soils formed in the Lone Rock Formation and are therefore younger than the Valton soils that formed in the Oneota Formation.

Another factor modifying the effects of time is the rate at which parent material can be transformed into soils. The small particles in loess, for example, weather relatively rapidly. On the other hand, the larger particles in sandstone bedrock and in outwash on valley trains have a high proportion of slowly weatherable minerals, such as quartz, and are transformed very slowly into soils that have distinct layers.

Landscape setting modifies the time factor because rainfall runs rapidly off steep slopes. Only a small amount of water enters the soil to form clay or leach carbonates and other soluble material.

Time is also modified by the effects of climate. The soils of La Crosse County formed in a climate that has varied during their formation. During the early stages of soil formation, the climate was cold because of the proximity to glacial ice to the west, north, and east. The early vegetation consisted of conifers followed briefly by oaks. These species were short lived following the retreat of glacial ice northward. The ensuing climate was warmer and drier and caused prairie plants to migrate eastward (Borchart, 1950).

About 4,000 to 5,000 years ago, the climate became cooler and more moist. The big woods spread westward once again. Aspect and topography were also factors in the expansion of the woodland. Timber probably became established first on the sheltered north- and east-facing footslopes. Trees may have even persisted here during the eastward migration of the prairie. From these sheltered sites, timber spread out onto the silty and loamy terraces and upward onto the ridgetops. Except for broad sandy areas along major rivers, the county at the time of settlement was covered with woodland.

The character of the soils encroached upon by woodland changed in response to processes generated by the timber. Forests produce little organic matter, most of which accumulates on the soil surface. In contrast, the prairie soils build up large amounts of organic matter and form a thick dark surface layer.

The organic matter produced by the decay of leaves, limbs, and trunks is more acid than that produced by prairie vegetation. The strong acids formed by water percolating through the surface litter and into the soil increased the mobility of clay, organic matter, and oxides and allowed them to be leached away or to accumulate in the subsoil. The dark surface layer of soils that had previously formed under prairie vegetation gradually became thinner. As clay and organic matter were removed, a thin bleached subsurface layer began to form just below the thinning surface layer. Clay and organic matter accumulated as thin waxy films on blocky peds in the subsoil and along cracks and pores formerly occupied by roots. Fully developed forest soils, such as Seaton and Norden soils, have a black or very dark brown surface layer 2 to 4 inches thick; an ashy, grayish subsurface layer that is low in clay and organic matter and is 5 to 10 inches thick; and a subsoil with structural development and clay and organic matter on blocky structural surfaces. When the land was cleared and cultivated, the thin surface and subsurface layers were commonly lost to erosion, and in many places tillage mixed the remaining upper layers with material from the upper part of the subsoil.

Some soils, such as Merit and Forkhorn soils, reflect the influence of both prairie and woodland because prairie did not persist long enough to alter the woodland soils completely.

Assuming all other factors are equal, soils form more rapidly in warmer, more humid conditions than the present climate affecting La Crosse County. Soils are frozen to some depth and the soil-forming process is drastically reduced for much of the year in this cool, subhumid continental climate.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 1 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great

group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. An example is Mollic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Mollic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Churchtown series.

The Official Series Descriptions (OSDs) provide the most current information about the series mapped in La Crosse County. These descriptions are available on the Web at http://soils.usda.gov.

Table 1.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series)

Soil name	Family or higher taxonomic class
Absco	Sandy, siliceous, mesic Typic Udifluvents
Adder	Sandy or sandy-skeletal, siliceous, euic, mesic Terric Haplosaprists
Algansee	Mixed, mesic Aquic Udipsamments
Arenzville	Coarse-silty, mixed, superactive, nonacid, mesic Typic Udifluvents
Barremills	Fine-silty, mixed, superactive, mesic Pachic Argiudolls
Bearpen	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Beavercreek	Loamy-skeletal, mixed, active, nonacid, mesic Typic Udifluvents
Bellechester	Sandy, mixed, mesic Entic Hapludolls
Bilmod	Coarse-loamy, siliceous, superactive, mesic Mollic Hapludalfs
Bilson	Coarse-loamy, siliceous, superactive, mesic Mollic Hapludalfs
Boone	Mesic, uncoated Typic Quartzipsamments
Brice	Coarse-loamy, mixed, superactive, mesic Lamellic Hapludalfs
Brinkman	Fine-silty, mixed, superactive, mesic Mollic Paleudalfs
Brodale	Loamy-skeletal, carbonatic, mesic Entic Hapludolls
Chelsea	Mixed, mesic Lamellic Udipsamments
Churchtown	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Council	Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs
Dakota	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls
Dorerton	Loamy-skeletal, mixed, active, mesic Typic Hapludalfs
Elbaville	Fine-loamy, mixed, superactive, mesic Glossic Hapludalfs
Elevasil	Coarse-loamy, siliceous, active, mesic Ultic Hapludalfs
Ettrick	Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls
Festina	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Finchford	Sandy, mixed, mesic Entic Hapludolls

Table 1.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Forkhorn	Coarse-loamy, mixed, active, mesic Mollic Hapludalfs
Gaphill	Coarse-loamy, siliceous, active, mesic Typic Hapludalfs
Gosil	Mesic, coated Typic Quartzipsamments
Greenridge	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Hixton	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs
Hoop	Coarse-loamy, siliceous, active, mesic Aquic Argiudolls
Houghton	Euic, mesic Typic Haplosaprists
Huntsville	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls
Impact	Sandy, siliceous, mesic Humic Psammentic Dystrudepts
Kalmarville	Coarse-loamy, mixed, superactive, nonacid, mesic Mollic Fluvaquents
Kickapoo	Coarse-loamy, mixed, superactive, nonacid, mesic Typic Udifluvents
Lambeau	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Lamoille	Fine, mixed, superactive, mesic Typic Hapludalfs
Lawson	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
*Ludington	Sandy over loamy, siliceous, semiactive, frigid Oxyaquic Ultic Haplorthods
Majik	Mesic, coated Aquic Quartzipsamments
Medary	Fine, mixed, superactive, mesic Oxyaquic Hapludalfs
Merimod	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Mollic Hapludalfs
Merit	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Mollic Hapludalfs
Mindoro	Siliceous, mesic Humic Psammentic Dystrudepts
Mt. Carroll	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Newlang	Siliceous, mesic Humaqueptic Psammaquents
Norden	Fine-loamy, mixed, superactive, mesic Typic Hapludalfs
Orion	Coarse-silty, mixed, superactive, nonacid, mesic Aquic Udifluvents
Otter	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Palms	Loamy, mixed, euic, mesic Terric Haplosaprists
Plainfield	Mixed, mesic Typic Udipsamments
Rasset	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Rockbluff	Mesic, coated Typic Quartzipsamments
Root	Coarse-loamy, mixed, active, nonacid, mesic Mollic Fluvaquents
Scotah	Mixed, mesic Typic Udipsamments
Seaton	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Tarr	Mesic, uncoated Typic Quartzipsamments
Timula	Coarse-silty, mixed, superactive, mesic Typic Eutrudepts
Tint	Mesic, uncoated Typic Quartzipsamments
Tintson	Mesic, uncoated Oxyaquic Quartzipsamments
Toddville	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Valton	Fine-silty, mixed, superactive, mesic Mollic Paleudalfs

Soil Map Unit Descriptions

The map units delineated on the soil maps in this survey represent the soils or miscellaneous areas in the survey area. These soils or miscellaneous areas are listed as individual components in the map unit descriptions. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is provided in the tables (see Contents).

A map unit delineation on the soil maps represents an area on the landscape. It is identified by differences in the properties and taxonomic classification of components and by the percentage of each component in the map unit.

Components that are dissimilar, or contrasting, are identified in the map unit description. Dissimilar components are those that have properties and behavioral characteristics divergent enough from those of the major components to affect use or to require different management. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps.

Components that are similar to the major components (noncontrasting) are not identified in the map unit description. Similar components are those that have properties and behavioral characteristics similar enough to those of the major components that they do not affect use or require different management.

The presence of multiple components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol is used for each map unit on the soil maps. This symbol precedes the map unit name in the map unit descriptions. Each description includes general information about the unit. The map unit descriptions include representative values in feet and the months in which a wet zone (a zone in which the soil moisture status is wet) is highest and lowest in the soil profile and ponding is shallowest and deepest on the soil surface. The descriptions also include the frequency of flooding (if it occurs) and the months in which flooding is most frequent and least frequent. Tables 26, 27, and 28 provide a complete display of this data for every month of the year. The available water capacity given in each map unit description is calculated for all horizons in the upper 60 inches of the soil profile. The organic matter content displayed in each map unit description is calculated for all horizons in the upper 10 inches of the soil profile, except those that represent the surface duff layer on forested soils. Table 24 provides a complete display of available water capacity and organic matter content by horizon.

The principal hazards and limitations to be considered in planning for specific uses are described in other sections of this survey.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying layers, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. The name of a soil phase commonly indicates a feature that affects use or management. For example, Valton silt loam, 2 to 6 percent slopes, moderately eroded, is a phase of the Valton series.

A map unit is named for the component or components that make up a dominant percentage of the map unit. Many map units consist of one dominant component. These map units are consociations. Churchtown silt loam, 12 to 20 percent slopes, moderately eroded, is an example.

Some map units are made up of two or more dominant components. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more components in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. Attempting to delineate the individual components of a complex would result in excessive clutter that could make the map illegible. The pattern and proportion of the components in a complex are somewhat similar in all areas. Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes, is an example.

An *undifferentiated group* is made up of two or more components that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the components in a mapped area are not uniform. An area can be made up of only one of the dominant components, or it can be made up of all of them. Palms and Houghton mucks, 0 to 1 percent slopes, is an undifferentiated group in this survey area.

This survey includes miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Map unit 2013, Pits, gravel, is an example.

Table 2 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

20A—Palms and Houghton mucks, 0 to 1 percent slopes

Component Description

Palms and similar soils

Extent: 0 to 90 percent of the unit
Geomorphic setting: Depressions on stream terraces
Slope range: 0 to 1 percent
Texture of the surface layer: Muck
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Organic material over loamy alluvium
Flooding: None
Shallowest depth to wet zone: At the surface (January, February, March, April, May, October, November, December)
Deepest depth to wet zone: 1.0 foot (August)
Shallowest ponding: 0.3 foot (January, February, June, July, August, September, December)

Deepest ponding: 0.5 foot (March, April, May, October, November)
Available water capacity to a depth of 60 inches: 19.4 inches
Content of organic matter in the upper 10 inches: 55.0 percent
Typical profile:
Oa—0 to 40 inches; muck
Cg—40 to 60 inches; silt loam

Houghton and similar soils
Extent: 0 to 90 percent of the unit
Geomorphic setting: Depressions on stream terraces
Slope range: 0 to 1 percent
Texture of the surface layer: Muck
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Organic material
Flooding: None
Shallowest depth to wet zone: At the surface (January, February, March, April, May, June, July, September, October, November, December)
Deepest depth to wet zone: 0.5 foot (August)
Shallowest ponding: 0.5 foot (January, February, July, August, December)
Deepest ponding: 1.0 foot (March, April, May, June, September, October, November)
Available water capacity to a depth of 60 inches: 24.5 inches
Content of organic matter in the upper 10 inches: 55.0 percent
Typical profile:
Oa—0 to 22 inches; muck
Oe—22 to 28 inches; mucky peat
O´a—28 to 60 inches; muck

Minor Dissimilar Components

Palms soils that are drained
Extent: 0 to 5 percent of the unit

Ettrick soils
Extent: 1 to 10 percent of the unit

Water
Extent: 1 to 5 percent of the unit

21A—Palms muck, 0 to 1 percent slopes, frequently flooded

Component Description

Palms and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Backswamps on flood plains
Slope range: 0 to 1 percent
Texture of the surface layer: Muck
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Organic material over loamy alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, July, August, October, November, December)
Highest frequency of flooding: Frequent (March, April, May, June)

Shallowest depth to wet zone: At the surface (January, February, March, April, May, October, November, December)
Deepest depth to wet zone: 1.0 foot (August)
Shallowest ponding: 0.3 foot (January, February, June, July, August, September, December)
Deepest ponding: 0.5 foot (March, April, May, October, November)
Available water capacity to a depth of 60 inches: 19.4 inches
Content of organic matter in the upper 10 inches: 55.0 percent
Typical profile:
Oa—0 to 40 inches; muck
Cg—40 to 60 inches; silt loam

Minor Dissimilar Components

Ettrick soils
Extent: 0 to 5 percent of the unit

Kalmarville soils
Extent: 0 to 5 percent of the unit

Water
Extent: 0 to 5 percent of the unit

30A—Adder muck, 0 to 1 percent slopes, frequently flooded

Component Description

Adder and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Backswamps on flood plains
Slope range: 0 to 1 percent
Texture of the surface layer: Muck
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Organic material over sandy alluvium
Lowest frequency of flooding (if it occurs): Rare (January)
Highest frequency of flooding: Frequent (March, April, May, June, October, November)
Shallowest depth to wet zone: At the surface (March, April, May, June, October, November)
Deepest depth to wet zone: 0.5 foot (January, February, July, August, September, December)
Shallowest ponding: None (January, February, July, August, September, December)
Deepest ponding: 0.5 foot (March, April, May, June, October, November)
Available water capacity to a depth of 60 inches: 11.1 inches
Content of organic matter in the upper 10 inches: 65.0 percent
Typical profile:
Oa—0 to 22 inches; muck
C—22 to 60 inches; sand

Minor Dissimilar Components

Newlang soils
Extent: 0 to 15 percent of the unit

110D3—Timula silt loam, 12 to 20 percent slopes, severely eroded

Component Description

Timula and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 0.7 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bw—9 to 28 inches; silt loam
BC,C—28 to 60 inches; silt loam

Minor Dissimilar Components

Seaton soils
Extent: 0 to 10 percent of the unit

110E2—Timula silt loam, 20 to 30 percent slopes, moderately eroded

Component Description

Timula and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes, shoulders
Slope range: 20 to 30 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bw—9 to 28 inches; silt loam
BC,C—28 to 60 inches; silt loam

Minor Dissimilar Components

Seaton soils
Extent: 0 to 10 percent of the unit

114B2—Mt. Carroll silt loam, 2 to 6 percent slopes, moderately eroded

Component Description

Mt. Carroll and similar soils
Extent: 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Summits
Slope range: 2 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 3.3 percent
Typical profile:
Ap—0 to 9 inches; silt loam
E—9 to 12 inches; silt loam
Bt—12 to 46 inches; silt loam
BC,C—46 to 80 inches; silt loam

115C2—Seaton silt loam, 6 to 12 percent slopes, moderately eroded

Component Description

Seaton and similar soils
Extent: 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 8 inches; silt loam
BE—8 to 13 inches; silt loam
Bt—13 to 55 inches; silt loam
BC—55 to 80 inches; silt loam

115D2—Seaton silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Seaton and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 8 inches; silt loam
BE—8 to 13 inches; silt loam
Bt—13 to 55 inches; silt loam
BC—55 to 80 inches; silt loam

115E2—Seaton silt loam, 20 to 30 percent slopes, moderately eroded

Component Description

Seaton and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 20 to 30 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 8 inches; silt loam
BE—8 to 13 inches; silt loam
Bt—13 to 55 inches; silt loam
BC—55 to 80 inches; silt loam

Minor Dissimilar Components

Timula soils
Extent: 0 to 10 percent of the unit

116C2—Churchtown silt loam, 6 to 12 percent slopes, moderately eroded

Component Description

Churchtown and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Footslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy slope alluvium over loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.4 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 26 inches; silt loam
2Bt—26 to 63 inches; silt loam
2BC—63 to 80 inches; silt loam

Minor Dissimilar Components

Norden soils
Extent: 0 to 5 percent of the unit

116D2—Churchtown silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Churchtown and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Footslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loam slope alluvium over loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.4 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 26 inches; silt loam
2Bt—26 to 63 inches; silt loam
2BC—63 to 80 inches; silt loam

Minor Dissimilar Components

Norden soils
Extent: 0 to 10 percent of the unit

Brownchurch soils
Extent: 0 to 5 percent of the unit

Beavercreek soils
Extent: 0 to 4 percent of the unit

116E2—Churchtown silt loam, 20 to 30 percent slopes, moderately eroded

Component Description

Churchtown and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Footslopes
Slope range: 20 to 30 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy slope alluvium over loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.4 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 26 inches; silt loam
2Bt—26 to 63 inches; silt loam
2BC—63 to 80 inches; silt loam

Minor Dissimilar Components

Norden soils
Extent: 0 to 15 percent of the unit

Brownchurch soils
Extent: 0 to 5 percent of the unit

Beavercreek soils
Extent: 0 to 4 percent of the unit

126B—Barremills silt loam, 1 to 6 percent slopes

Component Description

Barremills and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Footslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Silty slope alluvium over loess
Flooding: None
Shallowest depth to wet zone: 4.5 feet (May)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 13.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A,AB—0 to 27 inches; silt loam
Bt—27 to 65 inches; silt loam
BC—65 to 80 inches; silt loam

Minor Dissimilar Components

Toddville soils
Extent: 0 to 10 percent of the unit

Arenzville soils
Extent: 0 to 10 percent of the unit

132B2—Brinkman silt loam, 2 to 6 percent slopes, moderately eroded

Component Description

Brinkman and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Summits
Slope range: 2 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over clayey pedisediment
Flooding: None
Shallowest depth to wet zone: 4.5 feet (May)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 2.3 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 71 inches; silt loam
2Bt—71 to 80 inches; clay

Minor Dissimilar Components

Valton soils
Extent: 0 to 10 percent of the unit

Mt. Carroll soils
Extent: 0 to 10 percent of the unit

132C2—Brinkman silt loam, 6 to 12 percent slopes, moderately eroded

Component Description

Brinkman and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes, shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over clayey pedisediment
Flooding: None
Shallowest depth to wet zone: 4.5 feet (May)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 1.9 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 71 inches; silt loam
2Bt—71 to 80 inches; clay

Minor Dissimilar Components

Valton soils
Extent: 0 to 10 percent of the unit

Mt. Carroll soils
Extent: 0 to 10 percent of the unit

133B2—Valton silt loam, 2 to 6 percent slopes, moderately eroded

Component Description

Valton and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Summits
Slope range: 2 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over clayey pedisediment
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 2.3 percent

Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 22 inches; silt loam
2Bt—22 to 60 inches; clay

Minor Dissimilar Components

Brinkman soils
Extent: 0 to 10 percent of the unit

Lamoille soils
Extent: 0 to 10 percent of the unit

133C2—Valton silt loam, 6 to 12 percent slopes, moderately eroded

Component Description

Valton and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over clayey pedisediment
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 2.3 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 22 inches; silt loam
2Bt—22 to 60 inches; clay

Minor Dissimilar Components

Brinkman soils
Extent: 0 to 10 percent of the unit

Lamoille soils
Extent: 0 to 10 percent of the unit

133D2—Valton silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Valton and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes

Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over clayey pedisediment
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 2.3 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 22 inches; silt loam
2Bt—22 to 60 inches; clay

Minor Dissimilar Components

Brinkman soils
Extent: 0 to 10 percent of the unit

Lamoille soils
Extent: 0 to 10 percent of the unit

134C2—Lamoille silt loam, 6 to 12 percent slopes, moderately eroded

Component Description

Lamoille and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes, shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 40 to 100 inches to bedrock (lithic)
Drainage class: Well drained
Parent material: Loess over clayey pedisediment
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.7 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
E,BE—9 to 13 inches; silt loam
2Bt—13 to 27 inches; clay
3Bt—27 to 37 inches; very cobbly clay loam
3C—37 to 60 inches; very cobbly loam

Minor Dissimilar Components

Valton soils
Extent: 0 to 15 percent of the unit

134D2—Lamoille silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Lamoille and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 40 to 100 inches to bedrock (lithic)
Drainage class: Well drained
Parent material: Loess over clayey pedisediment
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.7 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
A—0 to 9 inches; silt loam
E,BE—9 to 13 inches; silt loam
2Bt—13 to 27 inches; clay
3Bt—27 to 37 inches; very cobbly clay loam
3C—37 to 60 inches; very cobbly loam

Minor Dissimilar Components

Lamoille silty clay loam
Extent: 0 to 15 percent of the unit

Valton soils
Extent: 0 to 15 percent of the unit

163E2—Elbaville silt loam, 20 to 30 percent slopes, moderately eroded

Component Description

Elbaville and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes, shoulders
Slope range: 20 to 30 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 60 to 80 inches to bedrock (lithic)
Drainage class: Well drained
Parent material: Loess over loamy and clayey colluvium over loamy and sandy residuum
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.1 inches
Content of organic matter in the upper 10 inches: 1.3 percent

Typical profile:
Ap—0 to 8 inches; silt loam
E—8 to 11 inches; silt loam
B/E,Bt—11 to 21 inches; silt loam
2Bt—21 to 26 inches; silty clay
3Bt—26 to 37 inches; very flaggy silty clay loam
3C—37 to 60 inches; extremely flaggy sandy loam

Minor Dissimilar Components

Dorerton soils
Extent: 0 to 10 percent of the unit

Valton soils
Extent: 0 to 5 percent of the unit

202C2—Lambeau silt loam, 6 to 12 percent slopes, moderately eroded

Component Description

Lambeau and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 45 to 80 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over sandy residuum
Flooding: None
Depth to wet zone: More than 5.3 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 42 inches; silt loam
2Bt—42 to 54 inches; loam, sandy loam
3C—54 to 64 inches; sand
3Cr—64 to 80 inches; weathered bedrock

Minor Dissimilar Components

Hixton soils
Extent: 0 to 10 percent of the unit

202D2—Lambeau silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Lambeau and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills

Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 45 to 80 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over sandy residuum
Flooding: None
Depth to wet zone: More than 5.3 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 42 inches; silt loam
2Bt—42 to 54 inches; loam
3C—54 to 64 inches; sand
3Cr—64 to 80 inches; weathered bedrock

Minor Dissimilar Components

Hixton soils
Extent: 0 to 10 percent of the unit

213D2—Hixton silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Hixton and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over sandy residuum
Flooding: None
Depth to wet zone: More than 3.1 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.1 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 8 inches; silt loam
Bt—8 to 20 inches; silt loam
2Bt—20 to 32 inches; loam
3C—32 to 37 inches; channery sand
3Cr—37 to 60 inches; weathered bedrock

Minor Dissimilar Components

Elevasil soils
Extent: 0 to 10 percent of the unit

Lambeau soils
Extent: 0 to 5 percent of the unit

Boone soils
Extent: 0 to 5 percent of the unit

213E2—Hixton silt loam, 20 to 30 percent slopes, moderately eroded

Component Description

Hixton and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 20 to 30 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over sandy residuum
Flooding: None
Depth to wet zone: More than 3.1 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.1 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 8 inches; silt loam
Bt—8 to 20 inches; silt loam
2Bt—20 to 32 inches; loam
3C—32 to 37 inches; channery sand
3Cr—37 to 60 inches; weathered bedrock

Minor Dissimilar Components

Elevasil soils
Extent: 0 to 15 percent of the unit

Lambeau soils
Extent: 0 to 5 percent of the unit

224B—Elevasil sandy loam, 2 to 6 percent slopes

Component Description

Elevasil and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Summits
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loamy slope alluvium over sandy residuum

Flooding: None
Depth to wet zone: More than 3.2 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 2.3 percent
Typical profile:
Ap—0 to 9 inches; sandy loam
Bt—9 to 27 inches; sandy loam
2BC—27 to 31 inches; loamy sand
2C—31 to 39 inches; sand
2Cr—39 to 60 inches; weathered bedrock

Minor Dissimilar Components

Hixton soils
Extent: 1 to 5 percent of the unit

Elkmound soils
Extent: 0 to 5 percent of the unit

Boone soils
Extent: 1 to 5 percent of the unit

224C2—Elevasil sandy loam, 6 to 12 percent slopes, moderately eroded

Component Description

Elevasil and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loamy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 3.2 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 2.3 percent
Typical profile:
Ap—0 to 9 inches; sandy loam
Bt—9 to 27 inches; sandy loam
2BC—27 to 31 inches; loamy sand
2C—31 to 39 inches; sand
2Cr—39 to 60 inches; weathered bedrock

Minor Dissimilar Components

Boone soils
Extent: 0 to 10 percent of the unit

Elkmound soils
Extent: 0 to 5 percent of the unit

Hixton soils
Extent: 0 to 5 percent of the unit

224D2—Elevasil sandy loam, 12 to 20 percent slopes, moderately eroded

Component Description

Elevasil and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loamy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 3.2 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 2.3 percent
Typical profile:
Ap—0 to 9 inches; sandy loam
Bt—9 to 27 inches; sandy loam
2BC—27 to 31 inches; loamy sand
2C—31 to 39 inches; sand
2Cr—39 to 60 inches; weathered bedrock

Minor Dissimilar Components

Boone soils
Extent: 0 to 10 percent of the unit

Elkmound soils
Extent: 0 to 5 percent of the unit

Hixton soils
Extent: 0 to 5 percent of the unit

233C—Boone sand, 6 to 15 percent slopes

Component Description

Boone and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 6 to 15 percent
Texture of the surface layer: Sand
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Excessively drained
Parent material: Sandy slope alluvium over sandy residuum
Flooding: None

Depth to wet zone: More than 2.9 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.5 inches
Content of organic matter in the upper 10 inches: 0.7 percent
Typical profile:
Ap—0 to 8 inches; sand
Bw—8 to 21 inches; sand
C—21 to 35 inches; sand
Cr—35 to 60 inches; weathered bedrock

Minor Dissimilar Components

Tarr soils
Extent: 0 to 10 percent of the unit

253C2—Greenridge silt loam, 4 to 12 percent slopes, moderately eroded

Component Description

Greenridge and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, summits
Slope range: 4 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 45 to 80 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over loamy residuum
Flooding: None
Depth to wet zone: More than 5.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 50 inches; silt loam
2Bt—50 to 69 inches; fine sandy loam
2Cr—69 to 80 inches; weathered bedrock

Minor Dissimilar Components

Norden soils
Extent: 0 to 15 percent of the unit

253D2—Greenridge silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Greenridge and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent

Texture of the surface layer: Silt loam
Depth to restrictive feature: 45 to 80 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over loamy residuum
Flooding: None
Depth to wet zone: More than 5.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 50 inches; silt loam
2Bt—50 to 69 inches; fine sandy loam
2Cr—69 to 80 inches; weathered bedrock

Minor Dissimilar Components

Norden soils
Extent: 0 to 15 percent of the unit

254C2—Norden silt loam, 6 to 12 percent slopes, moderately eroded

Component Description

Norden and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over loamy residuum
Flooding: None
Depth to wet zone: More than 3.1 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.6 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 8 inches; silt loam
Bt—8 to 20 inches; silt loam
2Bt—20 to 37 inches; fine sandy loam
2Cr—37 to 60 inches; weathered bedrock

Minor Dissimilar Components

Urne soils
Extent: 0 to 5 percent of the unit

Greenridge soils
Extent: 0 to 5 percent of the unit

Rockbridge soils
Extent: 0 to 5 percent of the unit

254D2—Norden silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Norden and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over loamy residuum
Flooding: None
Depth to wet zone: More than 3.1 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.6 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 8 inches; silt loam
Bt—8 to 20 inches; silt loam
2Bt—20 to 37 inches; fine sandy loam
2Cr—37 to 60 inches; weathered bedrock

Minor Dissimilar Components

Urne soils
Extent: 0 to 10 percent of the unit

Greenridge soils
Extent: 0 to 10 percent of the unit

Rockbridge soils
Extent: 0 to 5 percent of the unit

254E2—Norden silt loam, 20 to 30 percent slopes, moderately eroded

Component Description

Norden and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 20 to 30 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over loamy residuum
Flooding: None
Depth to wet zone: More than 3.1 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.6 inches
Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:
Ap—0 to 8 inches; silt loam
Bt—8 to 20 inches; silt loam
2Bt—20 to 37 inches; fine sandy loam
2Cr—37 to 60 inches; weathered bedrock

Minor Dissimilar Components

Urne soils
Extent: 0 to 10 percent of the unit

Churchtown soils
Extent: 0 to 5 percent of the unit

Greenridge soils
Extent: 0 to 5 percent of the unit

296B—Ludington sand, 1 to 6 percent slopes

Component Description

Ludington and similar soils
Extent: 100 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Footslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Sand
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Moderately well drained
Parent material: Sandy alluvium over loamy residuum
Flooding: None
Shallowest depth to wet zone: 2.0 feet (April, May)
Deepest depth to wet zone: More than 3.2 feet (January, February, June, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 1.4 percent
Typical profile:
Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 4 inches; sand
E—4 to 11 inches; sand
Bs—11 to 16 inches; sand
Bw—16 to 33 inches; sand
2Bt—33 to 39 inches; sandy clay loam
2Cr—39 to 60 inches; weathered bedrock

312B2—Festina silt loam, 2 to 6 percent slopes, moderately eroded

Component Description

Festina and similar soils
Extent: 100 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 2 to 6 percent

Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Silty alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 2.6 percent
Typical profile:
Ap—0 to 7 inches; silt loam
E—7 to 12 inches; silt loam
BE,Bt—12 to 38 inches; silt loam
BC,C—38 to 68 inches; silt loam

318A—Bearpen silt loam, 0 to 3 percent slopes, rarely flooded

Component Description

Bearpen and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Silty alluvium over silty to sandy slackwater deposits
Months in which flooding does not occur: January, February, November, December
Highest frequency of flooding: Rare (March, April, May, June, July, August, September, October)
Shallowest depth to wet zone: 1.5 feet (March, April, May, June, October, November, December)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 2.5 percent
Typical profile:
Ap—0 to 18 inches; silt loam
Bt—18 to 41 inches; silt loam
2Bt—41 to 50 inches; stratified silty clay loam to sandy loam
2C—50 to 60 inches; stratified silty clay loam to sandy loam

Minor Dissimilar Components

Ettrick soils
Extent: 0 to 5 percent of the unit

Toddville soils
Extent: 0 to 5 percent of the unit

Orion soils
Extent: 0 to 5 percent of the unit

326B2—Medary silt loam, 1 to 6 percent slopes, moderately eroded

Component Description

Medary and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 1 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess and silty alluvium over stratified silty to clayey slackwater deposits
Flooding: None
Shallowest depth to wet zone: 3.0 feet (May, October)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.9 inches
Content of organic matter in the upper 10 inches: 1.3 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BE—7 to 14 inches; silt loam
2Bt—14 to 30 inches; stratified clay to silty clay loam
2C—30 to 60 inches; stratified clay to silt loam

Minor Dissimilar Components

Festina soils
Extent: 0 to 5 percent of the unit

Bearpen soils
Extent: 0 to 5 percent of the unit

326F—Medary silt loam, 15 to 45 percent slopes

Component Description

Medary and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Risers
Slope range: 15 to 45 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Silty slope alluvium over stratified clayey and silty slackwater deposits
Flooding: None
Shallowest depth to wet zone: 3.0 feet (May, October)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 2.1 percent

Typical profile:
A—0 to 3 inches; silt loam
BE—3 to 14 inches; silt loam
2Bt—14 to 30 inches; stratified clay to silty clay loam
2C—30 to 60 inches; stratified clay to silt loam

Minor Dissimilar Components

Seep areas
Extent: 0 to 10 percent of the unit

336A—Toddville silt loam, 0 to 3 percent slopes

Component Description

Toddville and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Silty alluvium over sandy and loamy alluvium
Flooding: None
Shallowest depth to wet zone: 4.0 feet (March, April, May, October, November, December)
Deepest depth to wet zone: More than 6.7 feet (January, February, June, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,AB—0 to 20 inches; silt loam
Bt—20 to 41 inches; silt loam
2Bt—41 to 50 inches; stratified silt loam to sandy loam
C—50 to 60 inches; stratified sand to loamy fine sand

Minor Dissimilar Components

Merimod soils
Extent: 0 to 10 percent of the unit

Bearpen soils
Extent: 0 to 5 percent of the unit

403A—Dakota silt loam, 0 to 3 percent slopes

Component Description

Dakota and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Valley trains
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Well drained
Parent material: Silty alluvium over sandy and gravelly outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 8.0 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap—0 to 10 inches; silt loam
AB—10 to 13 inches; silt loam
Bt—13 to 35 inches; silt loam
2Bt—35 to 38 inches; loamy sand
2C—38 to 60 inches; stratified gravelly coarse sand to sand

Minor Dissimilar Components

Rasset soils
Extent: 0 to 10 percent of the unit

Dakota soils that have a loamy substratum
Extent: 0 to 5 percent of the unit

413A—Rasset sandy loam, 0 to 3 percent slopes

Component Description

Rasset and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Valley trains
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy alluvium over sandy and gravelly outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.9 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap—0 to 10 inches; sandy loam
A,AB—10 to 18 inches; sandy loam
Bt—18 to 30 inches; sandy loam
2Bt,2BC—30 to 50 inches; loamy sand
2C—50 to 60 inches; stratified gravelly coarse sand to sand

Minor Dissimilar Components

Dakota soils
Extent: 0 to 5 percent of the unit

Burkhardt soils
Extent: 0 to 5 percent of the unit

Finchford soils
Extent: 0 to 5 percent of the unit

Rasset soils that have a loamy substratum
Extent: 0 to 5 percent of the unit

Sparta soils
Extent: 0 to 5 percent of the unit

424B—Merit silt loam, 1 to 6 percent slopes

Component Description

Merit and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 1 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Silty alluvium over sandy and loamy alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.7 inches
Content of organic matter in the upper 10 inches: 2.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 12 inches; silt loam
2Bt—12 to 30 inches; loam
3C—30 to 60 inches; stratified sand to fine sandy loam

Minor Dissimilar Components

Merimod soils
Extent: 0 to 10 percent of the unit

Bilson soils
Extent: 0 to 5 percent of the unit

424D2—Merit silt loam, 12 to 20 percent slopes, moderately eroded

Component Description

Merit and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Risers
Slope range: 12 to 20 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Silty alluvium over sandy and loamy alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.7 inches

Content of organic matter in the upper 10 inches: 2.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 12 inches; silt loam
2Bt—12 to 30 inches; loam
3C—30 to 60 inches; stratified sand to fine sandy loam

Minor Dissimilar Components

Bilson soils
Extent: 5 to 15 percent of the unit

424F—Merit silt loam, 20 to 45 percent slopes

Component Description

Merit and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Risers
Slope range: 20 to 45 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Silty alluvium over sandy and loamy alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 2.1 percent
Typical profile:
A—0 to 3 inches; silt loam
Bt—3 to 12 inches; silt loam
2Bt—12 to 30 inches; loam
3C—30 to 60 inches; stratified sand to fine sandy loam

Minor Dissimilar Components

Bilson soils
Extent: 0 to 10 percent of the unit

Seep areas
Extent: 0 to 5 percent of the unit

433B—Forkhorn sandy loam, 2 to 6 percent slopes

Component Description

Forkhorn and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Valley trains
Geomorphic component: Treads
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy alluvium over sandy and gravelly outwash

Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.3 inches
Content of organic matter in the upper 10 inches: 2.4 percent
Typical profile:
Ap—0 to 9 inches; sandy loam
Bt—9 to 25 inches; sandy loam
2Bt—25 to 32 inches; gravelly loamy sand
2BC,2C—32 to 72 inches; stratified gravelly coarse sand to sand

Minor Dissimilar Components

Rusktown soils
Extent: 0 to 5 percent of the unit

Plainfield soils
Extent: 0 to 10 percent of the unit

Silverhill soils
Extent: 0 to 5 percent of the unit

434B—Bilson sandy loam, 1 to 6 percent slopes

Component Description

Bilson and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 1 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy alluvium over sandy and loamy alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.0 inches
Content of organic matter in the upper 10 inches: 2.1 percent
Typical profile:
Ap—0 to 8 inches; sandy loam
Bt—8 to 32 inches; sandy loam
2C1—32 to 38 inches; stratified sand to loamy sand
2C2—38 to 60 inches; stratified sand to sandy loam

Minor Dissimilar Components

Elevasil soils
Extent: 0 to 5 percent of the unit

Bilmod soils
Extent: 0 to 7 percent of the unit

Gosil soils
Extent: 0 to 5 percent of the unit

Merimod soils
Extent: 0 to 3 percent of the unit

434C2—Bilson sandy loam, 6 to 12 percent slopes, moderately eroded

Component Description

Bilson and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Footslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy alluvium over sandy and loamy alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.0 inches
Content of organic matter in the upper 10 inches: 2.1 percent
Typical profile:
Ap—0 to 8 inches; sandy loam
Bt—8 to 32 inches; sandy loam
2C1—32 to 38 inches; stratified sand to loamy sand
2C2—38 to 60 inches; stratified sand to sandy loam

Minor Dissimilar Components

Gosil soils
Extent: 0 to 15 percent of the unit

Bilmod soils
Extent: 0 to 5 percent of the unit

446A—Merimod silt loam, 0 to 3 percent slopes

Component Description

Merimod and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Silty alluvium over sandy and loamy alluvium
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April, May, October, November)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, June, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 7.8 inches
Content of organic matter in the upper 10 inches: 2.4 percent
Typical profile:
Ap—0 to 9 inches; silt loam
Bt—9 to 17 inches; silt loam

2Bt—17 to 32 inches; loam
3C1—32 to 52 inches; stratified sand to loamy sand
3C2—52 to 60 inches; stratified sand to fine sandy loam

Minor Dissimilar Components

Merit soils
Extent: 0 to 10 percent of the unit

Bilmod soils
Extent: 0 to 5 percent of the unit

Toddville soils
Extent: 0 to 5 percent of the unit

456A—Bilmod sandy loam, 0 to 3 percent slopes

Component Description

Bilmod and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loamy alluvium over sandy and loamy alluvium
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April, May, October, November)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, June, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 6.3 inches
Content of organic matter in the upper 10 inches: 2.3 percent
Typical profile:
Ap—0 to 9 inches; sandy loam
Bt—9 to 24 inches; sandy loam
2BC—24 to 32 inches; loamy sand
2C1—32 to 46 inches; stratified sand to loamy sand
2C2—46 to 60 inches; stratified sand to sandy loam

Minor Dissimilar Components

Bilson soils
Extent: 0 to 10 percent of the unit

Merimod soils
Extent: 0 to 5 percent of the unit

458A—Hoop sandy loam, 0 to 3 percent slopes

Component Description

Hoop and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Depressions on stream terraces
Geomorphic component: Treads

Slope range: 0 to 3 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loamy alluvium over sandy alluvium
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April, May, November)
Deepest depth to wet zone: 3.0 feet (July, August)
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 2.5 percent
Typical profile:
Ap,A—0 to 11 inches; sandy loam
Bt—11 to 24 inches; sandy loam
2BC—24 to 34 inches; sand
2C—34 to 60 inches; sand

Minor Dissimilar Components

Bilmod soils
Extent: 0 to 10 percent of the unit

Newlang soils that are drained
Extent: 0 to 5 percent of the unit

483B2—Brice loamy fine sand, 2 to 6 percent slopes, moderately eroded

Component Description

Brice and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Dunes on valley trains
Slope range: 2 to 6 percent
Texture of the surface layer: Loamy fine sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Eolian deposits
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 0.7 percent
Typical profile:
Ap—0 to 9 inches; loamy fine sand
Bw—9 to 23 inches; fine sand
2Bt—23 to 35 inches; fine sandy loam
3Bw—35 to 42 inches; fine sand
3E&Bt—42 to 80 inches; stratified fine sand to fine sandy loam

Minor Dissimilar Components

Finchford soils
Extent: 0 to 10 percent of the unit

Rasset soils
Extent: 0 to 5 percent of the unit

501A—Finchford loamy sand, 0 to 3 percent slopes

Component Description

Finchford and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Valley trains
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Loamy sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Sandy and gravelly outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
Ap,A1—0 to 15 inches; loamy sand
A2—15 to 19 inches; loamy sand
Bw—19 to 26 inches; sand
C—26 to 80 inches; stratified gravelly coarse sand to sand

Minor Dissimilar Components

Rasset soils
Extent: 0 to 10 percent of the unit

Chelsea soils
Extent: 0 to 5 percent of the unit

Prissel soils
Extent: 0 to 5 percent of the unit

502B2—Chelsea fine sand, 2 to 6 percent slopes, moderately eroded

Component Description

Chelsea and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Dunes on valley trains
Slope range: 2 to 6 percent
Texture of the surface layer: Fine sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Eolian sands
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 0.7 percent
Typical profile:
Ap—0 to 9 inches; fine sand

Bw—9 to 30 inches; fine sand
E and Bt—30 to 80 inches; stratified fine sand to fine sandy loam

Minor Dissimilar Components

Finchford soils
Extent: 0 to 10 percent of the unit

Rasset soils
Extent: 0 to 5 percent of the unit

Sparta soils
Extent: 0 to 10 percent of the unit

502C2—Chelsea fine sand, 6 to 15 percent slopes, moderately eroded

Component Description

Chelsea and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Dunes on valley trains
Slope range: 6 to 15 percent
Texture of the surface layer: Fine sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Eolian sands
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 0.7 percent
Typical profile:
Ap—0 to 9 inches; fine sand
Bw—9 to 30 inches; fine sand
E and Bt—30 to 80 inches; stratified fine sand to fine sandy loam

Minor Dissimilar Components

Finchford soils
Extent: 0 to 5 percent of the unit

Sparta soils
Extent: 0 to 5 percent of the unit

511B—Plainfield sand, 2 to 6 percent slopes

Component Description

Plainfield and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Valley trains
Geomorphic component: Treads
Slope range: 2 to 6 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained

Parent material: Sandy and gravelly outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.7 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 9 inches; sand
Bw—9 to 32 inches; sand
C—32 to 80 inches; stratified gravelly coarse sand to sand

Minor Dissimilar Components

Chelsea soils
Extent: 0 to 5 percent of the unit

Boplain soils
Extent: 0 to 5 percent of the unit

Prissel soils
Extent: 0 to 5 percent of the unit

511C—Plainfield sand, 6 to 15 percent slopes

Component Description

Plainfield and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Valley trains
Geomorphic component: Risers
Slope range: 6 to 15 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Sandy and gravelly outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.7 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 9 inches; sand
Bw—9 to 32 inches; sand
C—32 to 80 inches; stratified gravelly coarse sand to sand

Minor Dissimilar Components

Boplain soils
Extent: 0 to 5 percent of the unit

511F—Plainfield sand, 15 to 60 percent slopes

Component Description

Plainfield and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Valley trains

Geomorphic component: Risers
Slope range: 15 to 60 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Sandy and gravelly outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 4 inches; sand
Bw—4 to 32 inches; sand
C—32 to 80 inches; stratified gravelly coarse sand to sand

Minor Dissimilar Components

Boplain soils
Extent: 0 to 5 percent of the unit

Seep areas
Extent: 0 to 5 percent of the unit

551A—Impact sand, 0 to 3 percent slopes

Component Description

Impact and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Sandy alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.7 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
Ap—0 to 8 inches; sand
A,AB—8 to 15 inches; sand
Bw—15 to 36 inches; sand
C—36 to 60 inches; sand

Minor Dissimilar Components

Mindoro soils
Extent: 0 to 5 percent of the unit

556A—Mindoro sand, 0 to 3 percent slopes

Component Description

Mindoro and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Stream terraces
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Sandy alluvium
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April, May, June, November)
Deepest depth to wet zone: 5.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 4.9 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
Ap—0 to 9 inches; sand
A,AB—9 to 17 inches; sand
Bw—17 to 45 inches; sand
BC,C—45 to 60 inches; sand

Minor Dissimilar Components

Impact soils
Extent: 0 to 5 percent of the unit

561B—Tarr sand, 1 to 6 percent slopes

Component Description

Tarr and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Toeslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Sandy pedisediment over sandy residuum
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.9 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 9 inches; sand
Bw—9 to 34 inches; sand
C—34 to 62 inches; sand

Minor Dissimilar Components

Boone soils
Extent: 0 to 5 percent of the unit

Tint soils
Extent: 0 to 2 percent of the unit

561C—Tarr sand, 6 to 15 percent slopes

Component Description

Tarr and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Footslopes
Slope range: 6 to 15 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Sandy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.9 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 9 inches; sand
Bw—9 to 34 inches; sand
C—34 to 62 inches; sand

Minor Dissimilar Components

Boone soils
Extent: 0 to 10 percent of the unit

561F—Tarr sand, 15 to 60 percent slopes

Component Description

Tarr and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Pediments
Geomorphic component: Risers
Slope range: 15 to 60 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Sandy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Oe—0 to 2 inches; moderately decomposed plant material
A—2 to 6 inches; sand
Bw—6 to 34 inches; sand
C—34 to 62 inches; sand

Minor Dissimilar Components

Absco soils
Extent: 0 to 5 percent of the unit

562B—Gosil loamy sand, 1 to 6 percent slopes

Component Description

Gosil and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Toeslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Loamy sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Sandy pedisediment over sandy residuum
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.1 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 9 inches; loamy sand
Bw—9 to 23 inches; loamy sand
BC—23 to 27 inches; sand
C—27 to 60 inches; stratified sand to loamy fine sand

Minor Dissimilar Components

Bilson soils
Extent: 0 to 10 percent of the unit

562C—Gosil loamy sand, 6 to 12 percent slopes

Component Description

Gosil and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Footslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Loamy sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Sandy pedisediment over sandy residuum
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.1 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 9 inches; loamy sand
Bw—9 to 23 inches; loamy sand

BC—23 to 27 inches; sand
C—27 to 60 inches; stratified sand to loamy fine sand

Minor Dissimilar Components

Bilson soils
Extent: 0 to 10 percent of the unit

566A—Tint sand, 0 to 3 percent slopes

Component Description

Tint and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Toeslopes
Slope range: 0 to 3 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Sandy pedisediment
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April, May, November)
Deepest depth to wet zone: 5.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 4.0 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 9 inches; sand
Bw—9 to 34 inches; sand
C—34 to 60 inches; sand

Minor Dissimilar Components

Tarr soils
Extent: 1 to 10 percent of the unit

Majik soils
Extent: 0 to 5 percent of the unit

Ludington soils
Extent: 0 to 5 percent of the unit

568A—Majik loamy fine sand, 0 to 3 percent slopes

Component Description

Majik and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Depressions on stream terraces
Geomorphic component: Treads
Slope range: 0 to 3 percent
Texture of the surface layer: Loamy fine sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Sandy alluvium
Flooding: None

Shallowest depth to wet zone: 1.5 feet (April, May, June)
Deepest depth to wet zone: 3.0 feet (July, August)
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 1.6 percent
Typical profile:
A—0 to 4 inches; loamy fine sand
E—4 to 7 inches; sand
Bw,BC—7 to 29 inches; loamy fine sand
C—29 to 60 inches; fine sand

Minor Dissimilar Components

Tint soils
Extent: 0 to 10 percent of the unit

Newlang soils
Extent: 0 to 5 percent of the unit

569A—Newlang muck, 0 to 2 percent slopes, occasionally flooded

Component Description

Newlang and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Drainageways on flood plains; depressions on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Muck
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Sandy alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, July, August, September, December)
Highest frequency of flooding: Occasional (March, April, May, June, October, November)
Shallowest depth to wet zone: At the surface (March, April, May, June, October, November)
Deepest depth to wet zone: 2.0 feet (August)
Shallowest ponding: 0.0 foot (January, February, July, August, September, December)
Deepest ponding: 0.5 foot (March, April, May, June, October, November)
Available water capacity to a depth of 60 inches: 6.1 inches
Content of organic matter in the upper 10 inches: 18.1 percent
Typical profile:
Oa—0 to 3 inches; muck
A—3 to 6 inches; loamy sand
Bg—6 to 22 inches; sand
C—22 to 63 inches; sand

Minor Dissimilar Components

Adder soils
Extent: 0 to 10 percent of the unit

Newlang soils that are drained
Extent: 0 to 5 percent of the unit

Majik soils
Extent: 0 to 5 percent of the unit

576B—Tintson sand, 1 to 6 percent slopes

Component Description

Tintson and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Pediments
Position on the landform: Footslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Sandy alluvium over loamy alluvium
Flooding: None
Shallowest depth to wet zone: 3.0 feet (May, October)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, December)
Ponding: None
Available water capacity to a depth of 60 inches: 5.8 inches
Content of organic matter in the upper 10 inches: 1.1 percent
Typical profile:
Ap—0 to 8 inches; sand
Bw,BC,C—8 to 46 inches; sand
2C—46 to 60 inches; stratified silt loam to sandy loam

Minor Dissimilar Components

Gosil soils
Extent: 0 to 10 percent of the unit

Bilmod soils
Extent: 0 to 5 percent of the unit

Majik soils
Extent: 0 to 5 percent of the unit

601C—Beavercreek cobbly fine sandy loam, 3 to 12 percent slopes, occasionally flooded

Component Description

Beavercreek and similar soils
Extent: 95 to 100 percent of the unit
Geomorphic setting: Alluvial fans
Slope range: 3 to 12 percent
Texture of the surface layer: Cobbly fine sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Cobbly loamy alluvium and colluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, June, July, August, September, December)
Highest frequency of flooding: Occasional (March, April, May, October, November)
Depth to wet zone: More than 6.7 feet all year

Ponding: None
Available water capacity to a depth of 60 inches: 6.5 inches
Content of organic matter in the upper 10 inches: 1.1 percent
Typical profile:
A—0 to 5 inches; cobbly fine sandy loam
C1—5 to 12 inches; stratified cobbly fine sandy loam to silt loam
2C2—12 to 60 inches; stratified very cobbly silt loam to extremely gravelly sand

Minor Dissimilar Components

Arenzville soils
Extent: 0 to 5 percent of the unit

606A—Huntsville silt loam, 0 to 3 percent slopes, rarely flooded

Component Description

Huntsville and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Flats on flood plains
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Silty and loamy alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, March, April, May, June, July, August, September, October, November, December)
Highest frequency of flooding: Rare (January, February, March, April, May, June, July, August, September, October, November, December)
Shallowest depth to wet zone: 4.0 feet (April, May, June, November)
Deepest depth to wet zone: 5.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 13.4 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
A1—0 to 12 inches; silt loam
A2-A4—12 to 50 inches; silt loam
C—50 to 60 inches; stratified silt loam to loam

Minor Dissimilar Components

Lawson soils
Extent: 0 to 10 percent of the unit

608A—Lawson silt loam, 0 to 3 percent slopes, occasionally flooded

Component Description

Lawson and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Flats on flood plains
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Silty and loamy alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, March, June, July, August, September, October, November, December)
Highest frequency of flooding: Occasional (April, May)
Shallowest depth to wet zone: 1.5 feet (April, May)
Deepest depth to wet zone: 3.0 feet (July, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.6 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A—0 to 30 inches; silt loam
C—30 to 60 inches; stratified silty clay loam to sandy loam

Minor Dissimilar Components

Huntsville soils
Extent: 0 to 10 percent of the unit

Otter soils
Extent: 0 to 5 percent of the unit

609A—Otter silt loam, 0 to 2 percent slopes, frequently flooded

Component Description

Otter and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Depressions on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Silty and loamy alluvium
Lowest frequency of flooding (if it occurs): Occasional (January, February, March, June, July, August, September, October, November, December)
Highest frequency of flooding: Frequent (April, May)
Shallowest depth to wet zone: At the surface (May)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: At the surface all year
Available water capacity to a depth of 60 inches: 12.7 inches
Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap,A—0 to 25 inches; silt loam
Cg—25 to 60 inches; stratified silty clay loam to sandy loam

Minor Dissimilar Components

Otter soils that are drained
Extent: 0 to 15 percent of the unit

Lawson soils
Extent: 0 to 10 percent of the unit

625A—Arenzville silt loam, channeled, 0 to 2 percent slopes, occasionally flooded

Component Description

Arenzville and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Drainageways on stream terraces
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Silty alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, July, August, September, December)
Highest frequency of flooding: Occasional (March, April, May, June, October, November)
Shallowest depth to wet zone: 4.0 feet (April, May, June, November)
Deepest depth to wet zone: 5.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.5 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
A—0 to 10 inches; silt loam
C—10 to 25 inches; silt loam
Ab—25 to 40 inches; silt loam
C´—40 to 60 inches; stratified silt loam to very fine sand

Minor Dissimilar Components

Ettrick soils
Extent: 1 to 5 percent of the unit

Orion soils
Extent: 1 to 10 percent of the unit

626A—Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded

Component Description

Arenzville and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Drainageways on stream terraces
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Silty alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, July, August, September, December)
Highest frequency of flooding: Occasional (March, April, May, June, October, November)
Shallowest depth to wet zone: 4.0 feet (April, May, June, November)
Deepest depth to wet zone: 5.5 feet (August)

Ponding: None
Available water capacity to a depth of 60 inches: 12.5 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
A—0 to 10 inches; silt loam
C—10 to 25 inches; silt loam
Ab—25 to 40 inches; silt loam
C´—40 to 60 inches; stratified silt loam to very fine sand

Minor Dissimilar Components

Soils that are not subject to flooding
Extent: 0 to 5 percent of the unit

Orion soils
Extent: 0 to 5 percent of the unit

Ettrick soils
Extent: 0 to 2 percent of the unit

Arenzville soils that have a loamy-skeletal substratum
Extent: 0 to 10 percent of the unit

628A—Orion silt loam, 0 to 3 percent slopes, occasionally flooded

Component Description

Orion and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Drainageways on stream terraces
Slope range: 0 to 3 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Silty alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, July, August, September, December)
Highest frequency of flooding: Occasional (March, April, May, June, October, November)
Shallowest depth to wet zone: 1.5 feet (April, May, June)
Deepest depth to wet zone: 3.0 feet (July, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.4 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
Ap—0 to 8 inches; silt loam
C—8 to 32 inches; silt loam
Ab—32 to 40 inches; silt loam
Cg—40 to 60 inches; stratified silt loam to very fine sand

Minor Dissimilar Components

Arenzville soils
Extent: 0 to 10 percent of the unit

Ettrick soils
Extent: 1 to 5 percent of the unit

Soils that are not subject to flooding
Extent: 1 to 5 percent of the unit

Orion soils that have a loamy-skeletal substratum
Extent: 0 to 5 percent of the unit

629A—Ettrick silt loam, 0 to 2 percent slopes, frequently flooded

Component Description

Ettrick and similar soils
Extent: 85 to 100 percent of the unit
Geomorphic setting: Drainageways on stream terraces
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Silty alluvium
Lowest frequency of flooding (if it occurs): Rare (January, December)
Highest frequency of flooding: Frequent (March, April, May)
Shallowest depth to wet zone: At the surface (March, April, May, November)
Deepest depth to wet zone: 2.0 feet (August)
Shallowest ponding: 0.3 foot (January, February, June, July, August, September, October, December)
Deepest ponding: 0.5 foot (March, April, May, November)
Available water capacity to a depth of 60 inches: 14.4 inches
Content of organic matter in the upper 10 inches: 8.0 percent
Typical profile:
Ap,A—0 to 16 inches; silt loam
Bg—16 to 35 inches; silt loam
Cg—35 to 60 inches; stratified silt loam to fine sand

Minor Dissimilar Components

Orion soils
Extent: 0 to 5 percent of the unit

Palms soils
Extent: 0 to 5 percent of the unit

Ettrick soils that are drained
Extent: 0 to 5 percent of the unit

656A—Scotah loamy fine sand, 0 to 3 percent slopes, occasionally flooded

Component Description

Scotah and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Natural levees on flood plains; flats on flood plains
Slope range: 0 to 3 percent
Texture of the surface layer: Loamy fine sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained

Parent material: Sandy alluvium
Lowest frequency of flooding (if it occurs): Very rare (January, August, September, October, November, December)
Highest frequency of flooding: Occasional (March, April, May)
Shallowest depth to wet zone: 4.0 feet (April, May, June, November)
Deepest depth to wet zone: 5.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 1.1 percent
Typical profile:
A—0 to 4 inches; loamy fine sand
Bw—4 to 22 inches; fine sand
C—22 to 60 inches; stratified loamy fine sand to gravelly coarse sand

Minor Dissimilar Components

Algansee soils
Extent: 0 to 10 percent of the unit

Soils that are not subject to flooding
Extent: 0 to 5 percent of the unit

Kalmarville soils
Extent: 0 to 5 percent of the unit

666A—Absco loamy sand, 0 to 3 percent slopes, occasionally flooded

Component Description

Absco and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Flats on flood plains
Slope range: 0 to 3 percent
Texture of the surface layer: Loamy sand
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Sandy and loamy alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, July, August, September, October, December)
Highest frequency of flooding: Occasional (March, April, May, June, November)
Shallowest depth to wet zone: 4.0 feet (April, May, June, November)
Deepest depth to wet zone: 5.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 3.5 inches
Content of organic matter in the upper 10 inches: 0.9 percent
Typical profile:
A—0 to 4 inches; loamy sand
Bw—4 to 14 inches; sand
C—14 to 60 inches; stratified sand to loamy sand

Minor Dissimilar Components

Newlang soils
Extent: 0 to 10 percent of the unit

676A—Kickapoo fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Component Description

Kickapoo and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Drainageways
Slope range: 0 to 3 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loamy alluvium
Lowest frequency of flooding (if it occurs): Rare (January, February, July, August, September, December)
Highest frequency of flooding: Occasional (March, April, May, June, October, November)
Shallowest depth to wet zone: 4.0 feet (April, May, June, November)
Deepest depth to wet zone: 5.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.5 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 5 inches; fine sandy loam
C—5 to 36 inches; stratified gravelly sand to silt
Ab—36 to 41 inches; silt loam
C´—41 to 60 inches; stratified gravelly loamy sand to silt

Minor Dissimilar Components

Kickapoo soils that are not subject to flooding
Extent: 0 to 10 percent of the unit

Beavercreek soils
Extent: 0 to 4 percent of the unit

739A—Root loam, 0 to 2 percent slopes, frequently flooded

Component Description

Root and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Drainageways on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Poorly drained
Lowest frequency of flooding (if it occurs): Occasional (January, February, July, August, September, October, November, December)
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (March, April, May, June, October, November)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.1 inches
Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:
C1—0 to 7 inches; loam
C2—7 to 21 inches; loam
2C—21 to 60 inches; channery fine sandy loam

Minor Dissimilar Components

Somewhat poorly drained soils
Extent: 0 to 10 percent of the unit

743C2—Council fine sandy loam, 6 to 12 percent slopes, moderately eroded

Component Description

Council and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Footslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy slope alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 7 inches; fine sandy loam
Bt—7 to 45 inches; loam
C—45 to 60 inches; silt loam

Minor Dissimilar Components

Norden soils
Extent: 0 to 5 percent of the unit

Elevasil soils
Extent: 0 to 5 percent of the unit

Seaton soils
Extent: 0 to 5 percent of the unit

743D2—Council fine sandy loam, 12 to 20 percent slopes, moderately eroded

Component Description

Council and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Footslopes
Slope range: 12 to 20 percent
Texture of the surface layer: Fine sandy loam

Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy slope alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 7 inches; fine sandy loam
Bt—7 to 45 inches; loam
C—45 to 60 inches; silt loam

Minor Dissimilar Components

Elevasil soils
Extent: 0 to 5 percent of the unit

Norden soils
Extent: 0 to 5 percent of the unit

Seaton soils
Extent: 0 to 5 percent of the unit

743E2—Council fine sandy loam, 20 to 30 percent slopes, moderately eroded

Component Description

Council and similar soils
Extent: 85 to 95 percent of the unit
Geomorphic setting: Hills
Position on the landform: Footslopes
Slope range: 20 to 30 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy slope alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 7 inches; fine sandy loam
Bt—7 to 45 inches; loam
C—45 to 60 inches; silt loam

Minor Dissimilar Components

Elevasil soils
Extent: 0 to 8 percent of the unit

Norden soils
Extent: 0 to 5 percent of the unit

Seaton soils
Extent: 0 to 5 percent of the unit

1125F—Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes

Component Description

Dorerton and similar soils
Extent: 55 to 65 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes
Slope range: 30 to 60 percent
Texture of the surface layer: Loam
Depth to restrictive feature: 45 to 70 inches to bedrock (lithic)
Drainage class: Well drained
Parent material: Loamy colluvium over loamy residuum
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 2.1 percent
Typical profile:
A—0 to 3 inches; loam
E—3 to 15 inches; loam
BE,Bt—15 to 18 inches; loam
2Bt—18 to 30 inches; very channery clay loam
2C—30 to 60 inches; extremely flaggy loamy sand

Elbaville and similar soils
Extent: 20 to 30 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders
Slope range: 30 to 45 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 60 to 80 inches to bedrock (lithic)
Drainage class: Well drained
Parent material: Loess over loamy and clayey colluvium over loamy and sandy residuum
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 2.5 percent
Typical profile:
Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 5 inches; silt loam
E—5 to 11 inches; silt loam
B/E,Bt—11 to 21 inches; silt loam
2Bt—21 to 26 inches; silty clay
3Bt—26 to 37 inches; very flaggy silty clay loam
3C—37 to 60 inches; extremely flaggy sandy loam

Minor Dissimilar Components

Churchtown soils
Extent: 0 to 10 percent of the unit

Dorerton soils that are not stony
Extent: 0 to 5 percent of the unit

Gaphill soils
Extent: 0 to 5 percent of the unit

Rockbluff soils
Extent: 0 to 5 percent of the unit

1145F—Gaphill-Rockbluff complex, 30 to 60 percent slopes

Component Description

Gaphill and similar soils
Extent: 45 to 55 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes, shoulders
Slope range: 30 to 60 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: 40 to 80 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loamy colluvium and/or loamy slope alluvium over sandy colluvium and/or sandy residuum
Flooding: None
Depth to wet zone: More than 4.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.7 inches
Content of organic matter in the upper 10 inches: 2.2 percent
Typical profile:
Oe—0 to 2 inches; moderately decomposed plant material
A—2 to 5 inches; sandy loam
E—5 to 11 inches; sandy loam
Bt—11 to 32 inches; sandy loam
2BC—32 to 50 inches; sand
2C—50 to 56 inches; sand
2Cr—56 to 80 inches; weathered bedrock

Rockbluff and similar soils
Extent: 30 to 40 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 30 to 60 percent
Texture of the surface layer: Loamy sand
Depth to restrictive feature: 40 to 80 inches to bedrock (paralithic)
Drainage class: Excessively drained
Parent material: Sandy colluvium and/or sandy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 4.3 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.6 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Oe—0 to 2 inches; moderately decomposed plant material
A—2 to 4 inches; loamy sand

E—4 to 9 inches; loamy sand
Bw—9 to 35 inches; sand
C—35 to 52 inches; sand
Cr—52 to 80 inches; weathered bedrock

Minor Dissimilar Components

Gaphill soils that are very stony
Extent: 0 to 10 percent of the unit

Dorerton soils
Extent: 0 to 5 percent of the unit

Brownchurch soils
Extent: 0 to 5 percent of the unit

Rock outcrop
Extent: 0 to 3 percent of the unit

1155F—Brodale-Bellechester-Rock outcrop complex, 60 to 90 percent slopes

Component Description

Brodale and similar soils
Extent: 30 to 50 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders, backslopes
Slope range: 60 to 80 percent
Texture of the surface layer: Very flaggy loam
Depth to restrictive feature: 40 to 80 inches to bedrock (lithic)
Drainage class: Excessively drained
Parent material: Loamy colluvium over loamy residuum
Flooding: None
Depth to wet zone: More than 4.2 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.6 inches
Content of organic matter in the upper 10 inches: 3.2 percent
Typical profile:
A—0 to 6 inches; very flaggy loam
C—6 to 50 inches; very flaggy very fine sandy loam
R—50 to 80 inches; weathered bedrock

Bellechester and similar soils
Extent: 20 to 40 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes
Slope range: 60 to 90 percent
Texture of the surface layer: Sand
Depth to restrictive feature: 40 to 70 inches to bedrock (paralithic)
Drainage class: Excessively drained
Parent material: Sandy colluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 3.5 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.0 inches
Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:
A1—0 to 7 inches; sand
A2,BA—7 to 23 inches; sand
Bw,BC—23 to 42 inches; sand
Cr—42 to 80 inches; weathered bedrock

Rock outcrop
Extent: 10 to 20 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders
Slope range: 60 to 90 percent
Flooding: None

Minor Dissimilar Components

Bellechester soils that are very stony
Extent: 1 to 15 percent of the unit

Churchtown soils
Extent: 1 to 5 percent of the unit

Talus slopes
Extent: 0 to 5 percent of the unit

1233F—Boone-Tarr sands, 15 to 50 percent slopes

Component Description

Boone and similar soils
Extent: 50 to 60 percent of the unit
Geomorphic setting: Hills
Position on the landform: Shoulders
Slope range: 15 to 50 percent
Texture of the surface layer: Sand
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Excessively drained
Parent material: Sandy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 2.9 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.1 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 3 inches; sand
E,Bw—3 to 21 inches; sand
C—21 to 35 inches; sand
Cr—35 to 60 inches; weathered bedrock

Tarr and similar soils
Extent: 25 to 35 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes, footslopes
Slope range: 15 to 45 percent
Texture of the surface layer: Sand
Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Excessively drained
Parent material: Sandy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Oe—0 to 2 inches; moderately decomposed plant material
A—2 to 6 inches; sand
Bw—6 to 34 inches; sand
C—34 to 62 inches; sand

Minor Dissimilar Components

Elevasil soils
Extent: 0 to 15 percent of the unit

Rock outcrop
Extent: 0 to 5 percent of the unit

1658A—Algansee-Kalmarville complex, 0 to 3 percent slopes, frequently flooded

Component Description

Algansee and similar soils
Extent: 50 to 60 percent of the unit
Geomorphic setting: Flats on flood plains
Slope range: 0 to 3 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Thin mantle of loamy alluvium over sandy alluvium
Lowest frequency of flooding (if it occurs): Very rare (January, February, August, December)
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 1.5 feet (April, May)
Deepest depth to wet zone: 3.0 feet (July, August)
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 2.1 percent
Typical profile:
A—0 to 4 inches; fine sandy loam
Bw—4 to 31 inches; loamy fine sand
C—31 to 60 inches; stratified gravelly coarse sand to loamy fine sand

Kalmarville and similar soils
Extent: 25 to 35 percent of the unit
Geomorphic setting: Drainageways on flood plains; depressions on flood plains
Slope range: 0 to 1 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Silty and loamy alluvium over sandy alluvium

Lowest frequency of flooding (if it occurs): Very rare (January, February, August, December)
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: At the surface (January, February, March, April, May, June, October, November, December)
Deepest depth to wet zone: 1.5 feet (August)
Shallowest ponding: 0.3 foot (January, February, June, July, August, September, October, December)
Deepest ponding: 0.5 foot (March, April, May, November)
Available water capacity to a depth of 60 inches: 8.4 inches
Content of organic matter in the upper 10 inches: 4.2 percent
Typical profile:
A1—0 to 6 inches; silt loam
A2—6 to 37 inches; stratified sandy loam to silt loam
Cg—37 to 42 inches; stratified sandy loam to silt loam
2Cg—42 to 60 inches; stratified coarse sand to fine sand

Minor Dissimilar Components

Scotah soils
Extent: 1 to 10 percent of the unit

Palms soils
Extent: 0 to 5 percent of the unit

Water
Extent: 1 to 5 percent of the unit

Riverwash
Extent: 1 to 2 percent of the unit

Markey soils
Extent: 0 to 5 percent of the unit

1743F—Council-Elevasil-Norden complex, 30 to 60 percent slopes

Component Description

Council and similar soils
Extent: 30 to 40 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes
Slope range: 30 to 40 percent
Texture of the surface layer: Loam
Depth to restrictive feature: Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy slope alluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Oe—0 to 1 inch; moderately decomposed plant material

A—1 to 3 inches; loam
Bt—3 to 45 inches; loam
C—45 to 60 inches; silt loam

Elevasil and similar soils
Extent: 25 to 35 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes
Slope range: 30 to 60 percent
Texture of the surface layer: Sandy loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loamy slope alluvium over sandy residuum
Flooding: None
Depth to wet zone: More than 3.2 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.4 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 3 inches; sandy loam
Bt—3 to 27 inches; sandy loam
2BC—27 to 31 inches; loamy sand
2C—31 to 39 inches; sand
2Cr—39 to 60 inches; weathered bedrock

Norden and similar soils
Extent: 25 to 35 percent of the unit
Geomorphic setting: Hills
Position on the landform: Backslopes
Slope range: 30 to 60 percent
Texture of the surface layer: Silt loam
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Parent material: Loess over loamy residuum
Flooding: None
Depth to wet zone: More than 3.1 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.9 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Oe—0 to 1 inch; moderately decomposed plant material
A—1 to 3 inches; silt loam
Bt—3 to 20 inches; silt loam
2Bt—20 to 37 inches; fine sandy loam
2Cr—37 to 60 inches; weathered bedrock

Minor Dissimilar Components

Seaton soils
Extent: 0 to 5 percent of the unit

Rock outcrop
Extent: 0 to 2 percent of the unit

2002—Udorthents, earthen dams

Component Description

Udorthents, earthen dams
Extent: 100 percent of the unit
General description: Earthen dams generally consist of silty, loamy, and clayey soils. Service roads, spillways, very steep side slopes, dikes, levees, and small concrete or steel dam structures may be included in the mapped areas. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

2003A—Riverwash

Component Description

Riverwash
Extent: 90 to 100 percent of the unit
Geomorphic setting: Flood plains
General description: This map unit occurs as areas of unstable sediments that are reworked frequently by rivers. The sediments are typically sandy and gravelly, but in some areas they are silty and clayey. Areas of this map unit along the major rivers are frequently flooded. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

Minor Dissimilar Components

Kalmarville soils
Extent: 0 to 5 percent of the unit

Water
Extent: 0 to 5 percent of the unit

Algansee soils
Extent: 0 to 5 percent of the unit

2013—Pits, gravel

Component Description

Pits, gravel
Extent: 100 percent of the unit
General description: This map unit consists of open excavations from which sand and/or rock fragments (mostly gravel and cobbles) have been removed. Bedrock or other material is exposed in some places. Stockpiles, service roads, and vertical side slopes are included in some of the mapped areas. Many pits have been excavated to or below the ground water level and have intermittent or deep water ponds. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

2014—Pits, quarry, hard bedrock

Component Description

Pits, quarry, hard bedrock
Extent: 100 percent of the unit
General description: This map unit consits of open excavations from which dolostone,

quartzite, granite, or other indurated bedrock has been removed. Drilling, blasting, and crushing of material are generally required to remove and use the bedrock. Stockpiles, service roads, and vertical slopes are included in some of the mapped areas. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

2020—Urban land, valley trains

Component Description

Urban land, valley trains
Extent: 75 to 100 percent of the unit
Slope range: 0 to 20 percent
General description: This map unit consists of land mostly covered by streets, parking lots, buildings, and other structures of urban areas. Soil textures and colors and the thickness of the individual soil layers vary greatly as a result of disturbance caused by urban development. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

Minor Dissimilar Components

Chelsea soils
Extent: 0 to 15 percent of the unit

Finchford soils
Extent: 0 to 15 percent of the unit

Rasset soils
Extent: 0 to 15 percent of the unit

2030—Udorthents and Udipsamments, cut or fill

Component Description

Udorthents, cut or fill, and similar soils
Extent: 0 to 100 percent of the unit
Depth to restrictive feature: Very deep (more than 60 inches)
Flooding: None
Ponding: None
General description: This component consists of areas where the original silty, loamy, or clayey soil profile has been altered by the addition or removal of more than about a foot of soil material. Roads, landscaped areas, and steep slopes are included in some of the mapped areas. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

Udipsamments, cut or fill, and similar soils
Extent: 0 to 100 percent of the unit
Depth to restrictive feature: Very deep (more than 60 inches)
Flooding: None
Ponding: None
General description: This component consists of areas where the original sandy soil profile has been altered by the addition or removal of more than about a foot of soil material. Roads, landscaped areas, and steep slopes are included in some of the mapped areas. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

2040—Udipsamments, dredge material

Component Description

Udipsamments, dredge material, and similar soils
Extent: 90 to 100 percent of the unit
Geomorphic setting: Flood plains
Depth to restrictive feature: Very deep (more than 60 inches)
Flooding: None
Ponding: None
General description: This map unit consists of piles of soil material that have been dredged from the river channels and deposited in areas of adjacent soils. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

Minor Dissimilar Components

Algansee soils
Extent: 0 to 10 percent of the unit

Kalmarville soils
Extent: 0 to 10 percent of the unit

2050—Landfill

Component Description

Landfill
Extent: 100 percent of the unit
General description: This map unit occurs as areas of accumulated waste products of human habitation. The areas can be above or below natural ground level. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

M-W—Miscellaneous water

General Description

- This map unit consists of manmade areas that are used for industrial, sanitary, or mining applications and that contain water most of the year. Included in mapping are narrow dikes that surround the water areas.

W—Water

General Description

- This map unit includes rivers, streams, lakes, reservoirs, and ponds. These areas are covered with water in most years, at least during the period that is warm enough for plants to grow. Many are covered throughout the year. Small islands, flood plains, or riverwash may be included in mapping.

Table 2.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
20A	Palms and Houghton mucks, 0 to 1 percent slopes	1,030	0.3
21A	Palms muck, 0 to 1 percent slopes, frequently flooded	2,405	0.8
30A	Adder muck, 0 to 1 percent slopes, frequently flooded	983	0.3
110D3	Timula silt loam, 12 to 20 percent slopes, severely eroded	364	0.1
110E2	Timula silt loam, 20 to 30 percent slopes, moderately eroded	459	0.1
114B2	Mt. Carroll silt loam, 2 to 6 percent slopes, moderately eroded	1,683	0.5
115C2	Seaton silt loam, 6 to 12 percent slopes, moderately eroded	7,931	2.6
115D2	Seaton silt loam, 12 to 20 percent slopes, moderately eroded	10,691	3.5
115E2	Seaton silt loam, 20 to 30 percent slopes, moderately eroded	2,528	0.8
116C2	Churchtown silt loam, 6 to 12 percent slopes, moderately eroded	554	0.2
116D2	Churchtown silt loam, 12 to 20 percent slopes, moderately eroded	4,046	1.3
116E2	Churchtown silt loam, 20 to 30 percent slopes, moderately eroded	25,114	8.2
126B	Barremills silt loam, 1 to 6 percent slopes	7,462	2.4
132B2	Brinkman silt loam, 2 to 6 percent slopes, moderately eroded	1,454	0.5
132C2	Brinkman silt loam, 6 to 12 percent slopes, moderately eroded	4,324	1.4
133B2	Valton silt loam, 2 to 6 percent slopes, moderately eroded	1,325	0.4
133C2	Valton silt loam, 6 to 12 percent slopes, moderately eroded	6,101	2.0
133D2	Valton silt loam, 12 to 20 percent slopes, moderately eroded	12,199	4.0
134C2	Lamoille silt loam, 6 to 12 percent slopes, moderately eroded	666	0.2
134D2	Lamoille silt loam, 12 to 20 percent slopes, moderately eroded	1,786	0.6
163E2	Elbaville silt loam, 20 to 30 percent slopes, moderately eroded	4,002	1.3
202C2	Lambeau silt loam, 6 to 12 percent slopes, moderately eroded	302	*
202D2	Lambeau silt loam, 12 to 20 percent slopes, moderately eroded	1,705	0.6
213D2	Hixton silt loam, 12 to 20 percent slopes, moderately eroded	498	0.2
213E2	Hixton silt loam, 20 to 30 percent slopes, moderately eroded	821	0.3
224B	Elevasil sandy loam, 2 to 6 percent slopes	88	*
224C2	Elevasil sandy loam, 6 to 12 percent slopes, moderately eroded	111	*
224D2	Elevasil sandy loam, 12 to 20 percent slopes, moderately eroded	134	*
233C	Boone sand, 6 to 15 percent slopes	735	0.2
253C2	Greenridge silt loam, 4 to 12 percent slopes, moderately eroded	1,135	0.4
253D2	Greenridge silt loam, 12 to 20 percent slopes, moderately eroded	6,030	2.0
254C2	Norden silt loam, 6 to 12 percent slopes, moderately eroded	132	*
254D2	Norden silt loam, 12 to 20 percent slopes, moderately eroded	3,799	1.2
254E2	Norden silt loam, 20 to 30 percent slopes, moderately eroded	4,999	1.6
296B	Ludington sand, 1 to 6 percent slopes	222	*
312B2	Festina silt loam, 2 to 6 percent slopes, moderately eroded	1,956	0.6
318A	Bearpen silt loam, 0 to 3 percent slopes, rarely flooded	1,498	0.5
326B2	Medary silt loam, 1 to 6 percent slopes, moderately eroded	234	*
326F	Medary silt loam, 15 to 45 percent slopes	110	*
336A	Toddville silt loam, 0 to 3 percent slopes	7,184	2.3
403A	Dakota silt loam, 0 to 3 percent slopes	443	0.1
413A	Rasset sandy loam, 0 to 3 percent slopes	1,501	0.5
424B	Merit silt loam, 1 to 6 percent slopes	2,637	0.9
424D2	Merit silt loam, 12 to 20 percent slopes, moderately eroded	410	0.1
424F	Merit silt loam, 20 to 45 percent slopes	2,358	0.8
433B	Forkhorn sandy loam, 2 to 6 percent slopes	153	*
434B	Bilson sandy loam, 1 to 6 percent slopes	2,527	0.8
434C2	Bilson sandy loam, 6 to 12 percent slopes, moderately eroded	1,384	0.5
446A	Merimod silt loam, 0 to 3 percent slopes	1,593	0.5
456A	Bilmod sandy loam, 0 to 3 percent slopes	1,044	0.3
458A	Hoop sandy loam, 0 to 3 percent slopes	475	0.2
483B2	Brice loamy fine sand, 2 to 6 percent slopes, moderately eroded	493	0.2
501A	Finchford loamy sand, 0 to 3 percent slopes	3,992	1.3
502B2	Chelsea fine sand, 2 to 6 percent slopes, moderately eroded	2,507	0.8
502C2	Chelsea fine sand, 6 to 15 percent slopes, moderately eroded	1,824	0.6
511B	Plainfield sand, 2 to 6 percent slopes	417	0.1
511C	Plainfield sand, 6 to 15 percent slopes	229	*
511F	Plainfield sand, 15 to 60 percent slopes	840	0.3
551A	Impact sand, 0 to 3 percent slopes	2,177	0.7
556A	Mindoro sand, 0 to 3 percent slopes	1,374	0.4

See footnote at end of table.

Table 2.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
561B	Tarr sand, 1 to 6 percent slopes	4,094	1.3
561C	Tarr sand, 6 to 15 percent slopes	3,259	1.1
561F	Tarr sand, 15 to 60 percent slopes	1,498	0.5
562B	Gosil loamy sand, 1 to 6 percent slopes	4,140	1.3
562C	Gosil loamy sand, 6 to 12 percent slopes	2,100	0.7
566A	Tint sand, 0 to 3 percent slopes	393	0.1
568A	Majik loamy fine sand, 0 to 3 percent slopes	263	*
569A	Newlang muck, 0 to 2 percent slopes, occasionally flooded	1,734	0.6
576B	Tintson sand, 1 to 6 percent slopes	597	0.2
601C	Beavercreek cobbly fine sandy loam, 3 to 12 percent slopes, occasionally flooded	880	0.3
606A	Huntsville silt loam, 0 to 3 percent slopes, rarely flooded	329	0.1
608A	Lawson silt loam, 0 to 3 percent slopes, occasionally flooded	227	*
609A	Otter silt loam, 0 to 2 percent slopes, frequently flooded	352	0.1
625A	Arenzville silt loam, channeled, 0 to 2 percent slopes, occasionally flooded	2,135	0.7
626A	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded	5,657	1.8
628A	Orion silt loam, 0 to 3 percent slopes, occasionally flooded	3,404	1.1
629A	Ettrick silt loam, 0 to 2 percent slopes, frequently flooded	2,344	0.8
656A	Scotah loamy fine sand, 0 to 3 percent slopes, occasionally flooded	1,134	0.4
666A	Absco loamy sand, 0 to 3 percent slopes, occasionally flooded	914	0.3
676A	Kickapoo fine sandy loam, 0 to 3 percent slopes, occasionally flooded	4,389	1.4
739A	Root loam, 0 to 2 percent slopes, frequently flooded	122	*
743C2	Council fine sandy loam, 6 to 12 percent slopes, moderately eroded	1,626	0.5
743D2	Council fine sandy loam, 12 to 20 percent slopes, moderately eroded	2,885	0.9
743E2	Council fine sandy loam, 20 to 30 percent slopes, moderately eroded	844	0.3
1125F	Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes	31,047	10.1
1145F	Gaphill-Rockbluff complex, 30 to 60 percent slopes	4,027	1.3
1155F	Brodale-Bellechester-Rock outcrop complex, 60 to 90 percent slopes	327	0.1
1233F	Boone-Tarr sands, 15 to 50 percent slopes	1,648	0.5
1658A	Algansee-Kalmarville complex, 0 to 3 percent slopes, frequently flooded	15,052	4.9
1743F	Council-Elevasil-Norden complex, 30 to 60 percent slopes	19,897	6.5
2002	Udorthents, earthen dams	32	*
2003A	Riverwash	37	*
2013	Pits, gravel	78	*
2014	Pits, quarry, hard bedrock	435	0.1
2020	Urban land, valley trains	11,163	3.6
2030	Udorthents and Udipsamments, cut or fill	1,632	0.5
2040	Udipsamments, dredge material	105	*
2050	Landfill	196	*
M-W	Miscellaneous water	9	*
W	Water	19,254	6.3
	Total	307,437	100.0

* Less than 0.1 percent.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forest land; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; as sites for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair, poor,* and *very poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and for hay and pasture is suggested in this section. Climate information for the survey area is provided, the estimated yields of the main crops and hay and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described. Planners of management systems for individual fields or farms should consider obtaining specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Climate

Table 3 gives data on temperature and precipitation for the survey area as recorded at the La Crosse during the period from 1961 to 1990. Table 4 shows probable dates of the first freeze in fall and the last freeze in spring. Table 5 provides data on length of the growing season.

In winter, the average temperature is 18.3 degrees F and the average daily minimum temperature is 9.5 degrees. The lowest temperature on record, which occurred on January 30, 1951, is -37 degrees. In summer, the average temperature is 71 degrees and the average daily maximum temperature is 82 degrees. The highest temperature, which occurred on July 13, 1995, is 108 degrees.

Growing degree days are shown in table 3. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 30.53 inches. Of this total, 18.7 inches, or about 61 percent, usually falls in May through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 5.24 inches on July 27, 1987. Thunderstorms occur on about 40 days each year, and most occur between May and August.

The average seasonal snowfall is 41.5 inches. The greatest snow depth at any one time during the period of record was 34 inches on January 24, 1979. On an average, 80 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 14.4 inches on December 3, 1990.

Cropland Management Considerations

The management concerns affecting the use of the soil map units in the survey area for crops are shown in table 6. The main concerns in managing nonirrigated cropland are conserving moisture, controlling wind erosion and water erosion, and maintaining soil fertility.

Conserving moisture consists primarily of reducing the evaporation and runoff rates and increasing the water infiltration rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

Generally, a combination of several practices is needed to control *wind erosion* and *water erosion.* Conservation tillage, stripcropping, field windbreaks, contour farming,

conservation cropping systems, crop residue management, terraces, diversions, and grassed waterways help to prevent excessive soil loss.

Measures that are effective in maintaining *soil fertility* include applying fertilizer, both organic and inorganic, including manure; incorporating crop residue or green manure crops into the soil; and using proper crop rotations. Controlling erosion helps to prevent the loss of organic matter and plant nutrients and thus helps to maintain productivity, although the level of fertility can be reduced even in areas where erosion is controlled. All soils used for nonirrigated crops respond well to applications of fertilizer.

Some of the considerations shown in the table cannot be easily overcome. These are channels, flooding, gullies, and ponding.

Additional considerations are as follows:

Lime content, limited available water capacity, limited content of organic matter, potential poor tilth and compaction, and *restricted permeability.*—These limitations can be minimized by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer to soils that have a high content of lime.

Potential for ground-water contamination.—The proper use of nutrients and pesticides can reduce the risk of ground-water contamination.

Potential for surface-water contamination.—The risk of surface-water contamination can be reduced by the proper use of nutrients and pesticides and by conservation farming practices that reduce the runoff rate.

Surface crusting.—This limitation retards seedling development after periods of heavy rainfall.

Surface rock fragments.—This limitation causes rapid wear of tillage equipment. It cannot be easily overcome.

Surface stones.—Stones or boulders on or near the surface can hinder normal tillage unless they are removed.

Salt content.—In areas where this is a limitation, only salt-tolerant crops should be grown.

On irrigated soils the main management concerns are efficient water use, nutrient management, control of erosion, pest and weed control, and timely planting and harvesting for a successful crop. An irrigation system that provides optimum control and distribution of water at minimum cost is needed. Overirrigation wastes water, leaches plant nutrients, and causes erosion. Also, it can increase wetness and soil salinity.

Explanation of Criteria

Acid soil.—The pH is less than 6.1.

Channeled.—The word "channeled" is included in the map unit name.

Dense layer.—The bulk density is 1.80 g/cc or greater within the soil profile.

Depth to rock.—The depth to bedrock is less than 40 inches.

Eroded.—The word "eroded" is included in the map unit name.

Excessive permeability.—Saturated hydraulic conductivity is 42 micrometers per second or more within the soil profile.

Flooding.—Flooding is occasional, frequent, or very frequent.

Gullied.—The word "gullied" is included in the map unit name.

High content of organic matter.—The surface layer has more than 20 percent organic matter.

Lime content.—The pH is 7.4 or more in the surface layer, or the wind erodibility group is 4L.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Limited content of organic matter.—The content of organic matter is 2 percent or less in the surface layer.

Ponding.—Ponding duration is assigned to the soil. Water is above the surface.

Potential poor tilth and compaction.—The content of clay is 27 percent or more in the surface layer.

Potential for ground-water contamination (by nutrients or pesticides).—The depth to a zone in which the soil moisture status is wet is 4 feet or less, the saturated hydraulic conductivity of any layer is more than 42 micrometers per second, or the depth to bedrock is less than 60 inches.

Potential for surface-water contamination (by nutrients or pesticides).—The soil is occasionally, frequently, or very frequently flooded, is subject to ponding, is assigned to hydrologic group C or D and has a slope of more than 2 percent, is assigned to hydrologic group A and has a slope of more than 6 percent, or is assigned to hydrologic group B, has a slope of 3 percent or more, and has a K factor of more than 0.17.

Previously eroded.—The word "eroded" is included in the map unit name.

Restricted permeability.—Saturated hydraulic conductivity is less than 0.42 micrometer per second within the soil profile.

Salt content.—The electrical conductivity is 4 or more in the surface layer or 8 or more within a depth of 30 inches.

Slope (equipment limitation).—The slope is more than 15 percent.

Surface crusting.—The content of clay is 27 percent or more and the content of organic matter is 2 percent or less in the surface layer.

Surface rock fragments (equipment limitation).—The terms describing the texture of the surface layer include any rock fragment modifier, except for gravelly, channery, stony, very stony, extremely stony, bouldery, very bouldery, and extremely bouldery.

Surface stones (equipment limitation).—The word "stony" or "bouldery" is included in the description of the surface layer, or 0.01 percent or more of the surface is covered by boulders.

Water erosion.—Either the slope is 6 percent or more, or the slope is more than 3 percent and less than 6 percent and the surface layer is not sandy.

Wet soil moisture status.—A zone in which the soil moisture status is wet is within 2.5 feet of the surface.

Wind erosion.—The wind erodibility group is 1, 2, 3, or 4L.

Hydrologic groups are described under the heading "Water Features." Erosion factors (e.g., K factor) and wind erodibility groups are described under the heading "Physical Properties."

Crop Yield Estimates

The average yields per acre that can be expected of the principal crops and hay and pasture plants under a high level of management are shown in table 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in table 7.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop

residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Pasture and Hayland Interpretations

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and pasture renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about forage yields other than those shown in the yields table.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forest land or for engineering purposes.

In the capability system, soils generally are grouped at three levels—capability class, subclass, and unit (USDA, 1961). These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and forest land. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7.

Areas in class 8 are generally not suitable for crops, pasture, or forest land without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses identify the dominant kind of limitation in the class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

There are no subclasses in class 1 because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use mainly to pasture, forest land, wildlife habitat, or recreation.

The capability classification of map units in the survey area is given in table 7.

Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or forest land or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in national forests, national parks, military reservations, and state parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils that have a saturated zone high in the profile or soils that are subject to flooding may qualify as prime farmland where these limitations are overcome by drainage measures or flood control. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 55,841 acres, or 10.2 percent of the survey area, meets the requirements for prime farmland.

The map units in the survey area that meet the requirements for prime farmland are listed in table 8. This list does not constitute a recommendation for a particular land use. On some soils included in the table, measures that overcome limitations are needed. The need for these measures is indicated in parentheses after the map unit name. The location of each map unit is shown on the soil maps. The soil qualities that affect use and management are described in the section “Soil Map Unit Descriptions.”

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not originally support trees. Knowledge of how trees perform on such land can be gained only by observing and recording the performance of trees that have been planted and have survived. Many popular windbreak species are not indigenous to the areas in which they are planted.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters, a tree or shrub may grow well or grow poorly, depending on the characteristics of the soil. Each tree or shrub has definable potential heights in a given physiographic area and under a given climate. Accurate definitions of potential heights are necessary when a windbreak is planned and designed.

Table 9 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in this table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from local offices of the Natural Resources Conservation Service or the Cooperative Extension Service or from a nursery.

Conservation Tree/Shrub Suitability Groups

Conservation tree/shrub suitability groups consist of soils in which the kinds and degrees of the hazards and limitations that affect the survival and growth of trees and shrubs in conservation plantings are about the same. The conservation tree/shrub suitability groups assigned to the soils in the survey area are listed in table 10. Descriptions of the groups are provided in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Forest Land Management

Information about the hazards and limitations that should be considered in areas used as forest land are given in tables 11 through 14.

Forest Land Harvest Equipment Considerations

Table 11 provides information regarding the use of harvest equipment in areas used as forest land.

For most soils spring is the most limiting season. Alternate thawing and freezing during snowmelt cause saturation and low strength of the surface soil layers. When thawing is complete, saturation continues for short periods in well drained soils to nearly all year in very poorly drained soils in depressions. Degrees of wetness are generally proportionate to the depth at which a zone of saturation occurs. This zone generally is lower in summer during the heavy use of moisture by vegetation and is nearer the surface during periods when absorbed precipitation is greater than the vegetation requires. Harvesting during periods of saturation usually results in severe soil damage, except when the soil is frozen. The preferred season for timber harvest on many soils is winter, when wetness and low soil strength can be overcome by freezing.

Considerations shown in table 11 are as follows:

Slope.—The upper slope limit is more than 15 percent.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched zone in which the soil moisture status is wet (any drainage class).

Depth to hard rock.—The depth to hard bedrock is less than 10 inches.

Rubbly surface.—The word “rubbly” is in the map unit name.

Surface stones.—The words “extremely stony” are in the map unit name.

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Susceptible to rutting and wheel slippage (low strength).—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Poor traction (loose sandy material).—The USDA texture includes sands or loamy sands in any layer at a depth of 10 inches or less.

Forest Haul Road Considerations

Table 12 provides information regarding the use of the soils as haul roads. Haul roads serve as transportation routes from log landings to primary roads. Generally, haul roads are unpaved, but some are graveled.

Considerations shown in the table are as follows:

Slope.—The slope is 8 percent or more.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched zone in which the soil moisture status is wet (any drainage class).

Depth to hard rock.—The depth to hard bedrock is less than 20 inches.

Depth to soft rock.—The depth to soft bedrock is less than 20 inches.

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Low bearing strength.—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Rubbly surface.—The word “rubbly” is in the map unit name.

Forest Log Landing Considerations

Table 13 provides information regarding the use of the soils as log landings. Log landings are areas where logs are assembled for transportation. Areas that require little or no cutting, filling, or surface preparation are desired.

Considerations shown in the table are as follows:

Slope.—The slope is more than 3 percent.

Flooding.—The soil is occasionally flooded or frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched zone in which the soil moisture status is wet (any drainage class).

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Susceptible to rutting and wheel slippage (low strength).—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Rubbly surface.—The word “rubbly” is in the map unit name.

Forest Land Site Preparation and Planting Considerations

Table 14 provides information regarding considerations affecting site preparation and planting in areas used as forest land.

Considerations shown in the table are as follows:

Slope.—The upper slope limit is more than 15 percent.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched zone in which the soil moisture status is wet (any drainage class).

Depth to hard rock.—The depth to hard bedrock is less than 20 inches.

Surface stones.—The word “stony” is in the map unit name.

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Water erosion.—The slope is 8 percent or more.

Potential poor tilth and compaction.—The AASHTO classification is A-6 or A-7 in the upper 10 inches.

Rubbly surface.—The word “rubbly” is in the map unit name.

Cobbly surface.—The word “cobbly” is in the map unit name.

Forest Habitat Types

John Kotar, senior scientist, Department of Forestry, University of Wisconsin-Madison, helped prepare this section.

Modern forest management requires site classification that is based on ecological principles. It is not adequate to simply provide information on the trees that are suitable for planting on a particular soil map unit. Most trees can grow on a wide range of soils under intensive management. Intensive management is costly, however, and in the U.S. is practiced only under special conditions. Also, other natural attributes of forests, such as wildlife (including nongame species), recreation, esthetics, and biodiversity, are becoming increasingly more important.

Classifying sites or landscape units according to their biological potential helps to address these concerns. Such classification should be in terms of potential vegetation, which includes all plant species, and not only in terms of productivity of the commercially important tree species. Such a system, known as the Habitat Type Classification System, has been developed for Wisconsin’s forests and is in wide use by forest managers. The forest habitat types of La Crosse County are derived from

regions 6 and 7 of “A Guide to Forest Communities and Habitat Types of Central and Southern Wisconsin” (Kotar and Burger, 1996).

A habitat type is any land unit that is capable of supporting a particular type of climax plant community. Habitat types are identified by the presence of groups of so-called diagnostic species. The fully developed climax association need not be present for habitat type identification.

Although soil map units do not coincide exactly with habitat types, there are strong correlations between them. Therefore, habitat types can provide valuable interpretation of soil map units for forest resource management.

The field guide provides the following information: (1) Keys to habitat identification, based on presence and absence of diagnostic understory species; (2) a description of each habitat type in terms of understory species composition, prevalent forest cover types (successional stages), and expected successional trends; and (3) a summary of management implications of each habitat type. This summary, in combination with various tables and diagrams, identifies species best suited for management on a particular habitat type. This information takes into account the potential influence of competing vegetation as well as the inherent site capability. A short summary of principal ecological characteristics of selected tree species is included. The nature of forest vegetation of central and southern Wisconsin differs considerably from that in the north. In many areas, forests have been under continuous disturbance since, and even prior to, Euro-American settlement. Disturbance included fires, grazing and other uses, and logging. For these reasons the application of the classification to specific sites can be difficult, particularly the use of the identification keys in the field guide. As much floristic and descriptive information as possible was included, however, so that users should be able to interpret the major management implications of most communities and sites.

Not every community and site type is included in these classifications. The habitat types described are based on stands or woodlots that had acceptable conditions for sampling. For example, recently grazed or otherwise disturbed stands or low-density stands were not sampled. In some areas, the most productive soils are used entirely for agriculture and no forest was available for sampling. Particularly lacking were communities on the poorest sites, such as steep slopes and ridges with shallow soils, because these sites tend to be the most disturbed. Some of the habitat types that are described in this survey may not have been sampled in La Crosse County.

Habitat types have been determined for most of the soils in La Crosse County. Presently, habitat types have not been developed for the poorly drained (Npd) and very poorly drained (Nvpd) soils or the flood-plain (Nflp) soils. The vegetation on many of the very poorly drained soils, such as Palms soils, consists of grasses, sedges, and brush and only a few patches of poorly formed trees. Other areas, such as the very steep south- and west-facing “goat prairies” (Nnw), historically did not support the growth of trees, and these areas are not assigned a habitat type classification. The flood-plain soils, such as Algansee soils, commonly are forested, but sufficient information for placing them in a habitat type classification is not available at this time. Other miscellaneous areas (Nma) that are not commonly forested or for which there is not sufficient information are not assigned a habitat type classification.

A single habitat type is considered *dominant* if it constitutes more than 60 percent coverage (one habitat type that has more than 60 percent occurrence). If no habitat types are dominant but two types with 25 to 59 percent occurrence add up to more than 70 percent, then they would be considered *codominant.*

Habitat types for the soil map units in the county are shown in table 15. The following paragraphs briefly describe the habitat types that have been assigned to the soils in the county. The types are listed generally in order from the poorest and least productive to the most productive.

PVGy—Pinus strobus/Vaccinium-Gaylussacia (White pine/Blueberry-Huckleberry). Similar habitat types include PVCr and PVHa (in region 6). The landform in areas of PVGy consists of nearly level sand plains with sandstone buttes. The soils are sand or loamy sand and are typically more than 3 or 4 feet deep. They are well drained to excessively drained. Examples are Tarr and Boone soils. The moisture regime is very dry or dry. The nutrient regime is poor. This type is typically on flats and the lower slopes. On the steep upper slopes, on south-southwest aspects, and on narrow ridges, a xeric subtype is recognized. No plants consistently reflect these xeric conditions, but tree growth is strongly limited in these areas.

Common forest cover types: These include various mixtures of jack pine, red pine, white pine, pin oak, black oak, and white oak. Pines exhibit normal growth, but oaks attain only small stature and poor form. Red maple occurs mainly as saplings. In the literature, these communities are commonly referred to as pine and oak barrens.

Shrub and small tree layer: This layer is absent or poorly developed, except for huckleberry. Serviceberry, black cherry, blackberries, and raspberries are common but make up low coverage. Red maple and black cherry are commonly dominant.

Ground flora characteristics: Except for bracken fern, herbs are largely absent or are only sparsely distributed. The most common species are common milkweed, whorled loose strife, and wild lily-of-the-valley. Other species include wild sarsaparilla, false Solomon's seal, and starflower. Because only the species that are most tolerant of drought and low-nutrient conditions occur on the most extreme end of this gradient, plants cannot be used to further distinguish between "normal" and even more xeric sites. Therefore, when vegetation keys out to PVGy on steep upper slopes, south-southwest aspects, or narrow ridges, the site must be considered as a xeric subtype of PVGy.

Disturbance and succession: All tree species occurring on this type are adapted to fire disturbance. In the absence of fire, white pine appears to be best suited for reproduction in the understory and could be expected to dominate undisturbed stands. It is not yet very abundant in present stands, but where a seed source is present it shows vigorous development in the seedling and sapling layers. White oak also appears to regenerate well enough to remain as a permanent associate. Red pine, jack pine, and black oak would become less common. Red maple and black cherry are typically well represented in the sapling layer but attain only small tree size on this type and can be expected to persist as understory associates.

PVCr—Pinus strobus/Vaccinium-Cornus racemosa (White pine/Blueberry-Gray dogwood). Similar habitat types include PVGy and PVHa (in region 6). The PVCr habitat type occurs in areas of rolling to hilly topography with sandstone outcrops. The soils are loam or silt loam. They are shallow over either deep sand or bedrock. Eleva soils are examples. The moisture regime is dry, and the nutrient regime is medium.

Common forest cover types: Mixtures of white oak, black oak, pin oak, and white pine are most common. Jack pine occurs in many stands. Red oak is generally absent. Red maple is common and grows better on this habitat type than it does on PVGy but less well than on ArDe-V. Black cherry occurs in most stands as saplings but does not develop well into larger sizes.

Shrub and small tree layer: This layer is much better represented on this type than it is on PVGy. Most diagnostic in this respect are gray dogwood and chokecherry. Black cherry also is better represented on PVCr than on other types. Other important species are blackberries, raspberries, hazel, and serviceberry.

Ground flora characteristics: The herbaceous layer is poorly developed on this type. A few species are better represented on this type than they are on PVGy and are useful for identification. These are wild sarsaparilla, true Solomon's seal, and Virginia creeper.

Disturbance and succession: All tree species occurring on this type are adapted to fire disturbance. The relative frequency and intensity of fire probably controlled community composition in presettlement time. There is no evidence to suggest that in the absence of fire the same species, with the exception of jack pine, could not maintain themselves on this type. White pine, because of its much larger stature and longer life span than that of other species, is presumed to be a potential dominant species.

PVRh—Pinus strobus/Vaccinium-Rubus hispidus (White pine/Blueberry-Dewberry). Similar habitat types include PVGy and PVHa (in region 6). The PVRh habitat type occurs in areas of nearly level sand plains with sandstone buttes. The topography and soil textures are similar to those described for PVGy, but the ground-water influence is near the surface in areas of PVRh (typically within a depth of 3 feet). Fairchild, Iron Run, and Merrillan soils are examples. In spite of the ground-water influence, the vegetation on these sandy soils is decidedly xerophytic. The moisture regime of the PVRh type is dry-mesic, and the nutrient regime is poor.

Common forest cover types: White pine, red maple, and pin oak, in various mixtures, are the most common dominant species in current stands. White oak and jack pine are common associates. Red oak generally does not occur.

Shrub and small tree layer: This layer is generally absent or is only poorly developed. Huckleberry is common, but other species have low coverage. Those with high constancy are black cherry, serviceberry, and winterberry (ilex). Winterberry is best represented on this type. Conspicuously rare are gray dogwood, chokecherry, and hazel. All of these species are typically well represented on dry and dry-mesic sites.

Ground flora characteristics: Several species with moderate individual constancy values readily distinguish this type from other types in this region. These species include partridgeberry, swamp dewberry, starflower, ground pine (Lycopodium obscurum), goldthread, bunchberry, and yellow beadlily. They are characteristic members of northern forests and are rarely found in southern habitat types. Cinnamon fern dominates the herb layer in places, especially where ground water is near the surface.

Disturbance and succession: Records of presettlement conditions show white pine as the dominant species on this habitat type. Red maple and pin oak were probably always present, but they assumed dominance after white pine was logged off. Since then, the white pine seed source has slowly increased, and white pine regeneration is now common in many stands.

ArDe-V—Acer rubrum/Desmodium (Vaccinium) (Red maple/Pointed-leaf tick trefoil-Blueberry variant). Similar habitat types include PVCr. Areas of the ArDe-V habitat type are characterized by rolling to hilly topography and sandstone or dolomitic bedrock. The soils are sandy loam or loam. Hixton loam is an example. This habitat type represents a distinct transition between dry and dry-mesic sites.

Major forest cover types: White oak and red maple are the most common dominants in stands that were sampled, but red oak occurs in some areas. Pin oak and black oak are much less common than they are on the PVCr type. White pine is common.

Shrub and small tree layer: This layer is generally well represented. The major species, in decreasing order of average coverage, are hazel, blackberries and raspberries, serviceberry, black cherry, gray dogwood, and bush honeysuckle. Red maple saplings commonly dominate this layer.

Ground flora characteristics: The number of species and the total herb coverage are higher than on other dry habitat types of this region. Blueberry occurs here with small coverage and helps to distinguish ArDe-V from ArCi and other dry-mesic and mesic types. The species that best distinguishes this type from drier types is pointed-leaf tick trefoil. Other diagnostic species with lower constancies are sweet cicely, wild geranium, and hog peanut. The best represented species are bracken fern, bigleaf aster, tick trefoil, wild sarsaparilla, and Virginia creeper.

Disturbance and succession: The pattern of presettlement fires favored the development of oak communities. Red oak is not reproducing adequately in current stands, even where it is dominant in the overstory. White oak, however, shows some ability to persist. The most successfully reproducing species is red maple. Based on understory composition and soil characteristics, it appears that sugar maple is not a potential climax dominant on this type. Red maple is the most shade-tolerant species that is well adapted to these sites and is presumed to occur as a climax species. White pine could possibly become a permanent member of communities on this type if it can be established as a seed source. The competitive relationship between white pine and red maple on this type has not been established; however, it appears that under a disturbance regime of moderate fire frequency, the two species would coexist.

ArCi-Ph—Acer rubrum/Circaea (Phryma) (Red maple/Enchanter’s nightshade-Lopseed variant). Similar habitat types include ATiDe and ATiDe(Pr). The ArCi-Ph type occurs in areas of rolling to hilly sandstone terrain, particularly in areas where the soils have a thin cap of silt loam. The moisture regime is dry-mesic, and the nutrient regime is medium or rich.

Major forest cover types: Red oak, white oak, and red maple, in relatively pure stands or in mixtures, are most common. Mesic hardwoods (sugar maple, basswood, or white ash) or shagbark hickory occurs in some stands.

Shrub and small tree layer: This layer is typically well developed. The principal species, in descending order of average coverage, are blackberry/raspberry, hazel, gooseberry, gray dogwood, serviceberry, and chokecherry, but red maple and black cherry saplings commonly dominate this layer.

Ground flora characteristics: This type is distinguished from drier types of this region by the general absence of blueberry and huckleberry. Similarly, it is distinguished from the mesic types by a general lack of the blue cohosh ecological species group. The most characteristic species are nightshade, Virginia creeper, sweet cicely, wild geranium, and gooseberries.

Disturbance and succession: The climax nature of this community type has not been adequately studied. The soils do not appear to be different from those that support shade-tolerant mesic species in other parts of the region. However, these species are generally not found in this community type, and red maple is presently the most common species capable of reproducing in present oak stands. For these reasons, this type is referred to as a “community type” rather than a habitat type, and red maple can perhaps be viewed as a pseudo-climax species until a sugar maple seed source again becomes common on sites where fire once controlled community dynamics.

ATiDe and ATiDe(Pr)—Acer saccharum-Tilia/Desmodium and Acer saccharum-Tilia/Desmodium (Prunus serotina) (Sugar maple-Basswood/Tick trefoil and Sugar maple-Basswood/Tick trefoil, Black cherry phase). Similar habitat types include PVCr. The ATiDe and ATiDE(Pr) types are associated with rolling to hilly topography on valley walls. The soils are typically silt loam over cherty residuum or silt loam over sandstone. These types occur on all slope aspects but are more common on south and southwest aspects. The moisture regime is dry-mesic, and the nutrient regime is rich.

Common forest cover types: Sugar maple, basswood, and red oak are the primary dominant species on the ATiDe type. The Prunus (Pr) phase is dominated by red oak and white oak and some black oak and slippery elm. Maple and basswood are virtually absent.

Shrub and small tree layer: This layer is relatively sparse in areas of the ATiDe type. The Prunus (Pr) phase is typically dominated by gooseberry. Other common species are blackberry, black cherry, hazel, and gray dogwood.

Ground flora characteristics: The best representative species on both types include pointed-leaf tick trefoil, wild geranium, lopseed, black snakeroot, Virginia creeper, hog peanut, riverbank grape, and sweet cicely. Species that are more common on the ATiDe type than in areas of the Prunus (Pr) phase include rattlesnake fern, naked-flower tick trefoil, maidenhair fern, zig-zag goldenrod, and red baneberry. Species that are more common in areas of the Prunus (Pr) phase include agrimony, bracken fern, false Solomon's seal, and enchanter's nightshade.

Disturbance and succession: In presettlement time, most stands in areas of the ATiDe type were dominated by sugar maple-basswood. The stands of the Prunus (Pr) phase, however, developed from oak openings or communities dominated by shrubs. Although no mesic hardwoods, such as sugar maple, basswood, and white ash, occur in most current stands, the soils and understory vegetation suggest that these species are missing only as a result of the lack of a seed source. The Prunus (Pr) phase is therefore viewed only as a developmental phase and not as a different site type.

ATiCa and ATiSa—Acer-Tilia/Caulophyllum and Acer-Tilia/Sanguinaria (Sugar maple-Basswood/Blue cohosh and Sugar maple-Basswood/Bloodroot). Similar habitat types include ATiCa-Al (Baraboo section). These habitat types occur in areas of rolling to steep terrain. The soils are silt loams over cherty red clay over dolomite and sandstone. ATiCa is mainly on north and east aspects. The moisture regime in areas of this type is mesic, and the nutrient regime is very rich. The ATiSa type is typically on the south and southwest aspects and represents a transition from mesic to dry-mesic conditions.

Common forest cover types: Both types are typically dominated by sugar maple and basswood. Red oak is well represented only in the larger diameter classes (more than 10 inches in diameter at base height). Bitternut hickory and ironwood are the only other common associates. White oak is less common.

Shrub and small tree layer: The shrub layer is not well developed on either of these two types. It consists largely of saplings of canopy tree species. The only common shrubs are gooseberry, alternate-leaved dogwood, and prickly ash.

Ground flora characteristics: Understory species in areas of both types are typical of those on mesic sites in all regions, including bloodroot, large-flowered bellwort, rattlesnake fern, and maidenhair fern. Many other mesic species are distinctly more typical of the ATiCa type than of the ATiSa type. These species include blue

cohosh, jack-in-the-pulpit, baneberry, trillium, sharp-lobed hepatica, and wild ginger. The ATiSa type is further distinguished from the ATiCa type by higher constancies of tick trefoil, riverbank grape, shagbark hickory, ironwood, and basswood.

Disturbance and succession: These two habitat types represent the largest block of presettlement mesic forest in southwest Wisconsin. Dominance of sugar maple-basswood forest cannot be attributed to any particular site conditions, although the species in this type of forest are clearly best developed on north and east aspects and on deep silt loams. Many similar sites in the region support oak communities and are completely devoid of mesic hardwoods. The historic exclusion of fires is considered to be the primary cause of this vegetation pattern. Heavy cutting, grazing, and other disturbances result in an increase of oaks and other intolerant species on many sites; however, oaks are not regenerating in these stands. Sugar maple, basswood, and especially ironwood are the most common seedlings and saplings. Bitternut hickory also occurs in many stands. White ash is much less common in this area than it is in the mesic and dry-mesic forests in the eastern part of the State, especially in region 11.

Recreation

The soils of the survey area are rated in tables 16a and 16b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 16a and 16b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some

vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a zone in which the soil moisture status is wet, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a zone in which the soil moisture status is wet, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a zone in which the soil moisture status is wet; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a zone in which the soil moisture status is wet, ponding, slope,

stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 17, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, soybeans, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are bromegrass, timothy, orchardgrass, clover, alfalfa, wheatgrass, and birdsfoot trefoil.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestems, indiangrass, blueberry, goldenrod, lambsquarters, dandelions, blackberry, ragweed, and nightshade.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Examples of these plants are oak, poplar, box elder, birch, maple, green ash, willow, and American elm. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian olive and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, cedar, and tamarack.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweeds, wild millet, rushes, sedges, bulrushes, wild rice, arrowhead, waterplantain, cattail, prairie cordgrass, bluejoint grass, asters, and beggarticks.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are waterfowl feeding areas, wildlife watering developments, beaver ponds, and other wildlife ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include Hungarian partridge, ring-necked pheasant, bobwhite quail, sharp-tailed grouse, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, tree squirrels, porcupine, raccoon, white-tailed deer, and black bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a zone in which the soil moisture status is wet, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 18a and 18b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the

properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a zone in which the soil moisture status is wet, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a zone in which the soil moisture status is wet, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a zone in which the soil moisture status is wet, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to a seasonal zone in which the soil moisture status is wet, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to a zone in which the soil moisture status is wet, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a zone in which the soil moisture status is wet; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 19a and 19b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a zone in which the soil moisture status is wet, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a zone in which the soil moisture status is wet, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if a saturated zone is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a zone in which the soil moisture status is wet, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a zone in which the soil moisture status is wet, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or a saturated zone is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a zone in which the soil moisture status is wet, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or a saturated zone to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 20a and 20b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 20a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of gravel or sand. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 20b, the soils are rated *good, fair,* or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation

is affected by large stones, depth to a zone in which the soil moisture status is wet, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a zone in which the soil moisture status is wet, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a zone in which the soil moisture status is wet, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 21 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect

performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A wet zone high in the soil profile affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a zone in which the soil moisture status is wet, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Tables 22a and 22b show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil

reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The following paragraphs explain the ratings given in table 22a.

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and the food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a saturated zone, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a wet zone in the soil profile, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a saturated zone, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a wet zone in the soil profile, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

The following paragraphs explain the ratings given in table 22b.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Table 3.--Temperature and Precipitation

(Recorded in the period 1961-90 at La Crosse, Wisconsin)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	23.4	5.2	14.3	49	-26	0	0.95	0.43	1.40	2	10.9
February---	29.6	10.3	20.0	54	-24	3	.90	.30	1.40	2	7.9
March------	42.0	23.6	32.8	74	-6	52	1.98	1.16	2.71	4	8.0
April------	58.2	37.0	47.6	86	17	262	2.88	1.70	3.94	6	1.6
May--------	70.8	48.2	59.5	91	30	605	3.26	1.98	4.41	6	.0
June-------	79.8	57.3	68.5	96	41	856	3.90	2.13	5.47	7	.0
July-------	84.4	62.5	73.4	100	47	1,037	3.79	1.92	5.42	6	.0
August-----	81.5	60.1	70.8	97	44	956	3.92	1.83	5.72	6	.0
September--	72.1	51.3	61.7	92	33	651	3.79	1.65	5.62	6	.0
October----	60.3	40.4	50.4	85	20	337	2.24	.98	3.32	4	.0
November---	43.6	28.0	35.8	68	4	65	1.66	.62	2.63	4	2.9
December---	28.3	12.9	20.6	56	-19	4	1.26	.64	1.80	3	10.2
Yearly:											
Average---	56.2	36.4	46.3	---	---	---	---	---	---	---	---
Extreme---	105	-36	---	100	-29	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,828	30.53	25.35	35.11	56	41.5

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 4.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at La Crosse, Wisconsin)

Probability	Temperature: 24 °F or lower	Temperature: 28 °F or lower	Temperature: 32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 14	Apr. 30	May 16
2 years in 10 later than--	Apr. 11	Apr. 26	May 10
5 years in 10 later than--	Apr. 4	Apr. 17	Apr. 29
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 12	Oct. 4	Sept. 25
2 years in 10 earlier than--	Oct. 18	Oct. 9	Sept. 29
5 years in 10 earlier than--	Oct. 28	Oct. 19	Oct. 9

Table 5.--Growing Season

(Recorded in the period 1961-90 at La Crosse, Wisconsin)

Probability	Daily minimum temperature during growing season: Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	186	163	138
8 years in 10	193	170	146
5 years in 10	207	184	162
2 years in 10	220	198	177
1 year in 10	227	205	185

Table 6.--Cropland Management Considerations

(See text for a description of the considerations listed in this table)

Map symbol and soil name	Cropland management considerations
20A:	
Palms	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Houghton	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
21A:	
Palms	Flooding High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
30A:	
Adder	Flooding Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
110D3:	
Timula	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
110E2:	
Timula	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
114B2:	
Mt. Carroll	Potential for surface-water contamination Previously eroded Water erosion
115C2:	
Seaton	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
115D2:	
Seaton	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
115E2:	
Seaton	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
116C2:	
Churchtown	Potential for surface-water contamination Previously eroded Water erosion
116D2:	
Churchtown	Slope Potential for surface-water contamination Previously eroded Water erosion
116E2:	
Churchtown	Slope Potential for surface-water contamination Previously eroded Water erosion
126B:	
Barremills	Potential for surface-water contamination Water erosion
132B2:	
Brinkman	Potential for surface-water contamination Previously eroded Restricted permeability Water erosion
132C2:	
Brinkman	Potential for surface-water contamination Previously eroded Restricted permeability Water erosion
133B2:	
Valton	Potential for surface-water contamination Previously eroded Restricted permeability Water erosion
133C2:	
Valton	Potential for surface-water contamination Previously eroded Restricted permeability Water erosion
133D2:	
Valton	Slope Potential for surface-water contamination Previously eroded Restricted permeability Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
134C2:	
Lamoille	Acid soil Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Restricted permeability Water erosion
134D2:	
Lamoille	Acid soil Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Restricted permeability Water erosion
163E2:	
Elbaville	Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
202C2:	
Lambeau	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
202D2:	
Lambeau	Slope Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
213D2:	
Hixton	Slope Depth to bedrock Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
213E2:	
Hixton	Slope Depth to bedrock Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
224B:	
Elevasil	Depth to bedrock Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
224C2:	
Elevasil	Depth to bedrock Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
224D2:	
Elevasil	Slope Depth to bedrock Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
233C:	
Boone	Depth to bedrock Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
253C2:	
Greenridge	Acid soil Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
253D2:	
Greenridge	Acid soil Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
254C2:	
Norden	Acid soil Depth to bedrock Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
254D2:	
Norden	Acid soil Slope Depth to bedrock Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
254E2:	
Norden	Acid soil Slope Depth to bedrock Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
296B:	
Ludington	Acid soil Depth to bedrock Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
312B2:	
Festina	Acid soil Potential for surface-water contamination Previously eroded Water erosion
318A:	
Bearpen	Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
326B2:	
Medary	Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
326F:	
Medary	Slope Potential for ground-water contamination Potential for surface-water contamination Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
336A:	
Toddville	Excessive permeability Potential for ground-water contamination
403A:	
Dakota	Excessive permeability Potential for ground-water contamination
413A:	
Rasset	Excessive permeability Potential for ground-water contamination Wind erosion
424B:	
Merit	Potential for ground-water contamination Potential for surface-water contamination Water erosion
424D2:	
Merit	Slope Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
424F:	
Merit	Slope Potential for ground-water contamination Potential for surface-water contamination Water erosion
433B:	
Forkhorn	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
434B:	
Bilson	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
434C2:	
Bilson	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
446A:	
Merimod	Excessive permeability Potential for ground-water contamination
456A:	
Bilmod	Excessive permeability Potential for ground-water contamination Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
458A:	
Hoop	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
483B2:	
Brice	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Wind erosion
501A:	
Finchford	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
502B2:	
Chelsea	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Previously eroded Wind erosion
502C2:	
Chelsea	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
511B:	
Plainfield	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
511C:	
Plainfield	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
511F:	
Plainfield	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
551A:	
Impact	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
556A:	
Mindoro	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
561B:	
Tarr	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
561C:	
Tarr	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
561F:	
Tarr	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
562B:	
Gosil	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
562C:	
Gosil	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
566A:	
Tint	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
568A:	
Majik	Acid soil Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
569A:	
Newlang	Acid soil Flooding Excessive permeability High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
576B:	
Tintson	Acid soil Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion
601C:	
Beavercreek	Flooding Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Surface rock fragments
606A:	
Huntsville	Potential for ground-water contamination
608A:	
Lawson	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
609A:	
Otter	Flooding Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
625A:	
Arenzville	Flooding Channeled Potential for ground-water contamination Potential for surface-water contamination
626A:	
Arenzville	Flooding Potential for ground-water contamination Potential for surface-water contamination

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
628A:	
Orion	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
629A:	
Ettrick	Flooding Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
656A:	
Scotah	Flooding Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wind erosion
666A:	
Absco	Flooding Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion
676A:	
Kickapoo	Flooding Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion
739A:	
Root	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
743C2:	
Council	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion
743D2:	
Council	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion
743E2:	
Council	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
1125F:	
Dorerton	Slope Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Surface stones Water erosion
Elbaville	Slope Potential for ground-water contamination Potential for surface-water contamination Water erosion
1145F:	
Gaphill	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Rockbluff	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
1155F:	
Brodale	Slope Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Surface rock fragments Surface stones Water erosion
Bellechester	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Rock outcrop	Not applicable
1233F:	
Boone	Slope Depth to bedrock Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
1233F:	
Tarr	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
1658A:	
Algansee	Flooding Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Kalmarville	Flooding Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
1743F:	
Council	Slope Potential for surface-water contamination Water erosion
Elevasil	Slope Depth to bedrock Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Norden	Acid soil Slope Depth to bedrock Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
2002:	
Udorthents, earthen dams	Not applicable
2003A:	
Riverwash	Not applicable
2013:	
Pits, gravel	Not applicable
2014:	
Pits, quarry, hard bedrock	Not applicable
2020:	
Urban land, valley trains	Not applicable

Table 6.--Cropland Management Considerations--Continued

Map symbol and soil name	Cropland management considerations
2030:	
Udorthents, cut or fill	Onsite investigation required
Udipsamments, cut or fill	Onsite investigation required
2040:	
Udipsamments, dredge material	Onsite investigation required
2050:	
Landfill	Not applicable
M-W:	
Miscellaneous water	Not applicable
W:	
Water	Not applicable

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated area
indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
20A		---	---	---	---	---
Palms	6w					
Houghton	6w					
21A	7w	---	---	---	---	---
Palms						
30A	5w	---	---	---	---	---
Adder						
110D3	4e	16.0	25	3.7	100	3.1
Timula						
110E2	7e	16.0	25	3.7	100	3.1
Timula						
114B2	2e	25.0	51	5.8	155	4.8
Mt. Carroll						
115C2	3e	22.0	45	5.1	135	4.4
Seaton						
115D2	4e	20.0	41	4.7	125	4.0
Seaton						
115E2	6e	19.0	38	4.5	115	3.6
Seaton						
116C2	3e	22.0	45	5.1	135	4.4
Churchtown						
116D2	4e	20.0	41	4.7	125	4.0
Churchtown						
116E2	6e	19.0	37	4.5	115	3.6
Churchtown						
126B	1	25.0	50	5.6	150	5.0
Barremills						

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
132B2-------------------- Brinkman	2e	23.0	48	5.0	140	4.3
132C2-------------------- Brinkman	3e	21.0	45	4.8	130	3.9
133B2-------------------- Valton	2e	20.0	40	4.5	120	3.9
133C2-------------------- Valton	3e	17.0	36	4.1	110	3.5
133D2-------------------- Valton	4e	16.0	33	3.7	100	3.1
134C2-------------------- Lamoille	3e	16.0	33	3.7	95	3.1
134D2-------------------- Lamoille	4e	15.0	30	3.3	90	2.7
163E2-------------------- Elbaville	6e	16.0	33	3.7	100	3.1
202C2-------------------- Lambeau	3e	20.0	41	4.4	120	3.7
202D2-------------------- Lambeau	4e	17.0	36	4.1	110	3.4
213D2-------------------- Hixton	4e	14.0	28	3.5	85	2.8
213E2-------------------- Hixton	6e	13.0	26	3.2	75	2.4
224B--------------------- Elevasil	3s	15.0	28	3.8	90	3.1
224C2-------------------- Elevasil	3e	13.0	26	3.4	80	2.7
224D2-------------------- Elevasil	4e	11.0	23	3.0	70	2.3

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
233C--------------------- Boone	6s	6.0	13	1.8	40	0.9
253C2-------------------- Greenridge	3e	20.0	40	4.5	125	3.8
253D2-------------------- Greenridge	4e	19.0	38	4.2	115	3.5
254C2-------------------- Norden	3e	16.0	33	3.8	100	3.2
254D2-------------------- Norden	4e	15.0	29	3.4	90	2.8
254E2-------------------- Norden	6e	14.0	25	3.1	80	2.2
296B--------------------- Ludington	4s	9.0	18	2.1	55	1.3
312B2-------------------- Festina	2e	23.0	45	5.4	140	4.8
318A--------------------- Bearpen	2w	22.0	45	5.2	135	4.5
326B2-------------------- Medary	2e	16.0	31	4.0	100	3.9
326F--------------------- Medary	6e	---	---	---	---	2.9
336A--------------------- Toddville	1	25.0	50	5.6	150	5.0
403A--------------------- Dakota	2s	20.0	40	4.4	120	3.9
413A--------------------- Rasset	3s	16.0	31	4.2	100	3.0
424B--------------------- Merit	2e	17.0	35	4.2	110	3.4

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
424D2-------------------- Merit	4e	16.0	32	4.0	100	3.1
424F--------------------- Merit	6e	---	---	---	---	3.0
433B--------------------- Forkhorn	3s	15.0	31	3.8	95	2.9
434B--------------------- Bilson	3s	15.0	30	3.5	95	2.9
434C2-------------------- Bilson	3e	14.0	28	3.5	85	2.8
446A--------------------- Merimod	2s	17.0	35	4.4	105	3.1
456A--------------------- Bilmod	3s	15.0	31	3.8	95	2.9
458A--------------------- Hoop	3w	15.0	30	3.5	90	2.9
483B2-------------------- Brice	3s	13.0	25	3.3	80	2.6
501A--------------------- Finchford	4s	10.0	21	2.8	65	2.0
502B2-------------------- Chelsea	4s	10.0	20	2.6	60	1.5
502C2-------------------- Chelsea	6s	9.0	18	2.3	55	1.0
511B--------------------- Plainfield	4s	9.0	18	2.5	55	1.5
511C--------------------- Plainfield	6s	8.0	16	2.3	50	1.3
511F--------------------- Plainfield	7s	---	---	1.7	---	0.7

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
551A--------------------- Impact	4s	10.0	20	2.6	60	1.9
556A--------------------- Mindoro	4s	11.0	22	2.8	65	1.9
561B--------------------- Tarr	4s	7.0	15	2.1	45	1.1
561C--------------------- Tarr	6s	6.0	12	1.9	40	1.0
561F--------------------- Tarr	7s	---	---	---	---	---
562B--------------------- Gosil	4s	10.0	20	2.8	60	2.0
562C--------------------- Gosil	6s	9.0	18	2.6	55	1.8
566A--------------------- Tint	4s	7.0	15	2.1	45	1.1
568A--------------------- Majik	4w	9.0	18	2.5	55	2.0
569A--------------------- Newlang	6w	---	---	---	---	---
576B--------------------- Tintson	3s	11.0	22	3.5	70	2.0
601C--------------------- Beavercreek	6s	---	---	---	---	2.5
606A--------------------- Huntsville	1	24.0	56	5.0	145	4.5
608A--------------------- Lawson	3w	22.0	46	4.9	135	4.3
609A--------------------- Otter	6w	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
625A--------------------- Arenzville	6w	---	---	---	---	4.8
626A--------------------- Arenzville	2w	22.0	45	5.0	135	4.8
628A--------------------- Orion	2w	20.0	41	4.5	125	4.0
629A--------------------- Ettrick	6w	---	---	---	---	---
656A--------------------- Scotah	4w	9.0	18	2.5	55	1.5
666A--------------------- Absco	4s	---	---	2.8	---	2.0
676A--------------------- Kickapoo	3s	18.0	36	4.8	110	3.8
739A--------------------- Root	6w	---	---	---	---	3.0
743C2-------------------- Council	3e	20.0	41	4.7	125	3.9
743D2-------------------- Council	4e	19.0	38	4.3	115	3.5
743E2-------------------- Council	6e	17.0	35	4.1	105	3.3
1125F--------------------		---	---	---	---	2.3
Dorerton----------------	7e					
Elbaville---------------	7e					
1145F--------------------		---	---	---	---	1.2
Gaphill-----------------	7e					
Rockbluff---------------	7s					

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
1155F		---	---	---	---	0.5
Brodale	7s					
Bellechester	7s					
Rock outcrop	8					
1233F		---	---	---	---	0.8
Boone	7s					
Tarr	7s					
1658A		---	---	---	---	2.5
Algansee	7w					
Kalmarville	7w					
1743F		---	---	---	---	2.3
Council	7e					
Elevasil	7e					
Norden	7e					
2002. Udorthents, earthen dams						
2003A Riverwash	8w	---	---	---	---	---
2013. Pits, gravel						
2014. Pits, quarry, hard bedrock						
2020. Urban land, valley trains						
2030: Udorthents, cut or fill.						
Udipsamments, cut or fill.						
2040. Udipsamments, dredge material						

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn silage	Soybeans	Alfalfa hay	Corn	Kentucky bluegrass
		Tons	Bu	Tons	Bu	AUM*
2050. Landfill						
M-W. Miscellaneous water						
W. Water						

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one h
sheep, or five goats) for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
114B2	Mt. Carroll silt loam, 2 to 6 percent slopes, moderately eroded
126B	Barremills silt loam, 1 to 6 percent slopes
132B2	Brinkman silt loam, 2 to 6 percent slopes, moderately eroded
133B2	Valton silt loam, 2 to 6 percent slopes, moderately eroded
224B	Elevasil sandy loam, 2 to 6 percent slopes
312B2	Festina silt loam, 2 to 6 percent slopes, moderately eroded
318A	Bearpen silt loam, 0 to 3 percent slopes, rarely flooded (where drained)
326B2	Medary silt loam, 1 to 6 percent slopes, moderately eroded
336A	Toddville silt loam, 0 to 3 percent slopes
403A	Dakota silt loam, 0 to 3 percent slopes
413A	Rasset sandy loam, 0 to 3 percent slopes
424B	Merit silt loam, 1 to 6 percent slopes
433B	Forkhorn sandy loam, 2 to 6 percent slopes
434B	Bilson sandy loam, 1 to 6 percent slopes
446A	Merimod silt loam, 0 to 3 percent slopes
456A	Bilmod sandy loam, 0 to 3 percent slopes
458A	Hoop sandy loam, 0 to 3 percent slopes (where drained)
606A	Huntsville silt loam, 0 to 3 percent slopes, rarely flooded
608A	Lawson silt loam, 0 to 3 percent slopes, occasionally flooded (where drained)
609A	Otter silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
626A	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded
628A	Orion silt loam, 0 to 3 percent slopes, occasionally flooded
629A	Ettrick silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
676A	Kickapoo fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Table 9.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
20A:				
Palms	Common ninebark	---	---	Golden willow, white willow
Houghton	Common ninebark	---	---	Golden willow, white willow
21A:				
Palms	---	---	---	---
30A:				
Adder	Common ninebark	---	---	Golden willow, white willow
110D3:				
Timula	---	Washington hawthorn, Russian olive, eastern redcedar, osageorange	Green ash, northern catalpa, honeylocust	---
110E2:				
Timula	---	Washington hawthorn, Russian olive, eastern redcedar, osageorange	Green ash, northern catalpa, honeylocust	---
114B2:				
Mt. Carroll	---	Siberian peashrub, common lilac, redosier dogwood	Eastern arborvitae, eastern redcedar, Amur maple, blue spruce	Russian olive, common hackberry, eastern white pine, green ash
115C2:				
Seaton	---	Siberian peashrub, common lilac, gray dogwood, redosier dogwood	Eastern arborvitae, eastern redcedar, Amur maple	Russian olive, common hackberry, eastern white pine, green ash, red pine
115D2:				
Seaton	---	Siberian peashrub, common lilac, gray dogwood, redosier dogwood	Eastern arborvitae, eastern redcedar, Amur maple	Russian olive, common hackberry, eastern white pine, green ash, red pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
115E2:				
Seaton	---	Siberian peashrub, common lilac, gray dogwood, redosier dogwood	Eastern arborvitae, eastern redcedar, Amur maple	Russian olive, common hackberry, eastern white pine, green ash, red pine
116C2:				
Churchtown	---	Siberian peashrub, common lilac, gray dogwood	Eastern arborvitae, Amur maple, blue spruce	Russian olive, common hackberry, eastern white pine, green ash
116D2:				
Churchtown	---	Siberian peashrub, common lilac, gray dogwood	Eastern arborvitae, Amur maple, blue spruce	Russian olive, common hackberry, eastern white pine, green ash
116E2:				
Churchtown	---	Siberian peashrub, common lilac, gray dogwood	Eastern arborvitae, Amur maple, blue spruce	Russian olive, common hackberry, eastern white pine, green ash
126B:				
Barremills	Gray dogwood	American cranberrybush, Amur maple, common lilac	Eastern arborvitae, Black Hills spruce, Norway spruce, white spruce	Eastern white pine, red maple, red pine, white ash
132B2:				
Brinkman	---	Siberian peashrub, common lilac, gray dogwood, redosier dogwood	Eastern arborvitae, eastern redcedar, Amur maple, blue spruce	Russian olive, common hackberry, green ash, eastern white pine
132C2:				
Brinkman	---	Siberian peashrub, common lilac, gray dogwood, redosier dogwood	Eastern arborvitae, eastern redcedar, Amur maple, blue spruce	Russian olive, common hackberry, green ash, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
133B2:				
Valton	Gray dogwood, silky dogwood	American cranberrybush, Amur maple, alternateleaf dogwood, common lilac	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
133C2:				
Valton	Gray dogwood, silky dogwood	American cranberrybush, Amur maple, alternateleaf dogwood, common lilac	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
133D2:				
Valton	Gray dogwood, silky dogwood	American cranberrybush, Amur maple, alternateleaf dogwood, common lilac	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
134C2:				
Lamoille	Gray dogwood, silky dogwood	American cranberrybush, Amur maple, alternateleaf dogwood, common lilac	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
134D2:				
Lamoille	Gray dogwood, silky dogwood	American cranberrybush, Amur maple, alternateleaf dogwood, common lilac	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
163E2:				
Elbaville	Siberian peashrub, common lilac, silky dogwood	Eastern redcedar	Manchurian crabapple, Russian olive, bur oak, common hackberry, green ash, eastern white pine, jack pine, honeylocust	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
202C2:				
Lambeau	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
202D2:				
Lambeau	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
213D2:				
Hixton	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
213E2:				
Hixton	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
224B:				
Elevasil	Siberian peashrub, gray dogwood, silky dogwood	Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
224C2:				
Elevasil	Siberian peashrub, gray dogwood, silky dogwood	Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
224D2:				
Elevasil	Siberian peashrub, gray dogwood, silky dogwood	Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
233C:				
Boone	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
253C2:				
Greenridge	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
253D2:				
Greenridge	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
254C2:				
Norden	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
254D2:				
Norden	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
254E2:				
Norden	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
296B:				
Ludington	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
312B2:				
Festina	---	Siberian peashrub, common lilac, gray dogwood, redosier dogwood	Eastern arborvitae, eastern redcedar, Amur maple, blue spruce	Russian olive, common hackberry, green ash, eastern white pine
318A:				
Bearpen	Common ninebark, nannyberry, redosier dogwood	American cranberrybush, common lilac, silky dogwood	Eastern arborvitae, white spruce	Eastern white pine, red maple, silver maple, white ash
326B2:				
Medary	Gray dogwood, silky dogwood	American cranberrybush, Amur maple, alternateleaf dogwood, common lilac	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
326F:				
Medary	Gray dogwood, silky dogwood	American cranberrybush, Amur maple, alternateleaf dogwood, common lilac, eastern arborvitae	White spruce	Eastern white pine, red maple, red pine, white ash
336A:				
Toddville	Gray dogwood	American cranberrybush, Amur maple, common lilac	Eastern arborvitae, Black Hills spruce, Norway spruce, white spruce	Eastern white pine, red maple, red pine, white ash
403A:				
Dakota	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
413A:				
Rasset	Hedge cotoneaster	Siberian peashrub, Persian lilac, eastern redcedar	Amur maple, Russian olive, Norway spruce	Common hackberry, red pine, thornless honeylocust, green ash

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
424B:				
Merit	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
424D2:				
Merit	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
424F:				
Merit	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
433B:				
Forkhorn	Siberian peashrub, gray dogwood, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
434B:				
Bilson	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
434C2:				
Bilson	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
446A:				
Merimod	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
456A:				
Bilmod	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
458A:				
Hoop	Nannyberry	Common lilac, redosier dogwood	Eastern arborvitae, white spruce, Amur maple	Eastern white pine, red maple, white ash, common hackberry, green ash
483B2:				
Brice	Siberian peashrub, common lilac	---	Eastern redcedar, jack pine, red pine, Austrian pine	Eastern white pine
501A:				
Finchford	Siberian peashrub, common lilac	Sargent crabapple	Russian olive, eastern redcedar, jack pine, red pine, Austrian pine, Siberian elm, green ash	Eastern white pine
502B2:				
Chelsea	Siberian peashrub, common lilac	---	Eastern redcedar, jack pine, red pine, Austrian pine	Eastern white pine
502C2:				
Chelsea	Siberian peashrub, common lilac	---	Eastern redcedar, jack pine, red pine, Austrian pine	Eastern white pine
511B:				
Plainfield	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
511C:				
Plainfield	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
511F:				
Plainfield	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
551A:				
Impact	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
556A:				
Mindoro	Siberian peashrub, gray dogwood, gray dogwood, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
561B:				
Tarr	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
561C:				
Tarr	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
561F:				
Tarr	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35
562B:				
Gosil	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
562C:				
Gosil	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
566A:				
Tint	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
568A:				
Majik	Nannyberry, redosier dogwood	American cranberrybush, common lilac, silky dogwood	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, silver maple, white ash
569A:				
Newlang	Common ninebark, nannyberry, redosier dogwood, silky dogwood	American cranberrybush	Eastern arborvitae, balsam fir, white spruce	Green ash, red maple, white ash
576B:				
Tintson	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
601C:				
Beavercreek	Siberian peashrub, gray dogwood, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
606A:				
Huntsville	---	Common lilac, redosier dogwood	Eastern arborvitae, white spruce, Amur maple, blue spruce	Austrian pine, eastern white pine, common hackberry, green ash
608A:				
Lawson	Common ninebark, nannyberry, redosier dogwood	American cranberrybush, common lilac, silky dogwood	Eastern arborvitae, white spruce	Eastern white pine, red maple, silver maple, white ash
609A:				
Otter	Common ninebark, nannyberry	American cranberrybush, American plum, eastern arborvitae, redosier dogwood	Amur maple, white spruce, common hackberry	---
625A:				
Arenzville	Nannyberry, redosier dogwood	American cranberrybush, common lilac, silky dogwood	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
626A:				
Arenzville	Nannyberry, redosier dogwood	American cranberrybush, common lilac, silky dogwood	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
628A:				
Orion	Common ninebark, nannyberry, redosier dogwood	American cranberrybush, common lilac, silky dogwood	Eastern arborvitae, white spruce	Eastern white pine, red maple, silver maple, white ash
629A:				
Ettrick	Common ninebark, nannyberry, redosier dogwood, silky dogwood	American cranberrybush	Eastern arborvitae, balsam fir, white spruce	Green ash, red maple, white ash

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
656A: Scotah	Common ninebark	American cranberrybush, silky dogwood	Amur privet, nannyberry, eastern arborvitae, white spruce	Manchurian crabapple, Norway spruce, eastern white pine, green ash
666A: Absco	Common ninebark	American cranberrybush, silky dogwood	Amur privet, nannyberry, eastern arborvitae, white spruce	Manchurian crabapple, Norway spruce, eastern white pine, green ash
676A: Kickapoo	Nannyberry, redosier dogwood	American cranberrybush, common lilac, silky dogwood, silver maple	Eastern arborvitae, white spruce	Eastern white pine, red maple, red pine, white ash
739A: Root	Common ninebark, nannyberry, redosier dogwood, silky dogwood	American cranberrybush	Eastern arborvitae, balsam fir, white spruce	Green ash, red maple, white ash
743C2: Council	Gray dogwood	American cranberrybush, Amur maple, common lilac	Eastern arborvitae, Norway spruce, white spruce, white spruce	Eastern white pine, red maple, red pine, white ash
743D2: Council	Gray dogwood	American cranberrybush, Amur maple, common lilac	Eastern arborvitae, Norway spruce, white spruce, white spruce	Eastern white pine, red maple, red pine, white ash
743E2: Council	Gray dogwood	American cranberrybush, Amur maple, common lilac	Eastern arborvitae, Norway spruce, white spruce, white spruce	Eastern white pine, red maple, red pine, white ash

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35
1125F:				
Dorerton	Siberian peashrub, gray dogwood, manyflower cotoneaster	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
Elbaville	Siberian peashrub, common lilac, silky dogwood	Eastern redcedar	Manchurian crabapple, Russian olive, bur oak, common hackberry, green ash, eastern white pine, jack pine, honeylocust	---
1145F:				
Gaphill	Siberian peashrub, gray dogwood, silky dogwood	Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
Rockbluff	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
1155F:				
Brodale	Siberian peashrub, gray dogwood, silky dogwood	Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin
Bellechester	Siberian peashrub, Tatarian honeysuckle, common lilac	---	Eastern redcedar, jack pine, red pine, Austrian pine	Eastern white pine
Rock outcrop.				
1233F:				
Boone	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pin

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
1233F:				
Tarr	Siberian peashrub, gray dogwood, manyflower cotoneaster, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
1658A:				
Algansee	Silky dogwood	American cranberrybush, common lilac	Amur maple, eastern arborvitae, white spruce	Manchurian crabapple, Norway spruce, eastern white pine, green ash, red maple
Kalmarville	Common ninebark, nannyberry, redosier dogwood, silky dogwood	American cranberrybush	Eastern arborvitae, balsam fir, white spruce	Green ash, red maple, white ash
1743F:				
Council	Gray dogwood	American cranberrybush, Amur maple, common lilac	Eastern arborvitae, Norway spruce, white spruce, white spruce	Eastern white pine, red maple, red pine, white ash
Elevasil	Siberian peashrub, gray dogwood, gray dogwood, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
Norden	Siberian peashrub, gray dogwood, gray dogwood, silky dogwood	American cranberrybush, Amur maple, common lilac	Eastern redcedar, Norway spruce	Eastern white pine, jack pine, red pine
2002. Udorthents, earthen dams				
2003A. Riverwash				
2013, 2014. Pits				
2020. Urban land, valley trains				

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
2030:				
Udorthents, cut or fill.				
Udipsamments, cut or fill.				
2040. Udipsamments, dredge material				
2050. Landfill				
M-W. Miscellaneous water				
W. Water				

Table 10.--Conservation Tree/Shrub Suitability Groups

(Absence of an entry indicates that a conservation tree/shrub suitability group is not assigned)

Map symbol and soil name	Conservation tree/shrub suitability group
20A:	
Palms	10
Houghton	10
21A:	
Palms	10
30A:	
Adder	10
110D3:	
Timula	3
110E2:	
Timula	3
114B2:	
Mt. Carroll	3
115C2:	
Seaton	3
115D2:	
Seaton	3
115E2:	
Seaton	3
116C2:	
Churchtown	3
116D2:	
Churchtown	3
116E2:	
Churchtown	3
126B:	
Barremills	1
132B2:	
Brinkman	1
132C2:	
Brinkman	1
133B2:	
Valton	6D
133C2:	
Valton	6D
133D2:	
Valton	6D
134C2:	
Lamoille	10

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and soil name	Conservation tree/shrub suitability group
134D2:	
Lamoille	10
163E2:	
Elbaville	6D
202C2:	
Lambeau	6D
202D2:	
Lambeau	6D
213D2:	
Hixton	6D
213E2:	
Hixton	6D
224B:	
Elevasil	6GA
224C2:	
Elevasil	6GA
224D2:	
Elevasil	6GA
233C:	
Boone	6A
253C2:	
Greenridge	3
253D2:	
Greenridge	3
254C2:	
Norden	6D
254D2:	
Norden	6D
254E2:	
Norden	6D
296B:	
Ludington	10
312B2:	
Festina	3
318A:	
Bearpen	10
326B2:	
Medary	1
326F:	
Medary	1
336A:	
Toddville	1

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and soil name	Conservation tree/shrub suitability group
403A:	
Dakota	4
413A:	
Rasset	4
424B:	
Merit	4
424D2:	
Merit	4
424F:	
Merit	4
433B:	
Forkhorn	4
434B:	
Bilson	4
434C2:	
Bilson	4
446A:	
Merimod	1A
456A:	
Bilmod	4CA
458A:	
Hoop	10
483B2:	
Brice	7
501A:	
Finchford	7
502B2:	
Chelsea	7
502C2:	
Chelsea	7
511B:	
Plainfield	7
511C:	
Plainfield	7
511F:	
Plainfield	7
551A:	
Impact	7
556A:	
Mindoro	1S
561B:	
Tarr	7

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and soil name	Conservation tree/shrub suitability group
561C:	
Tarr	7
561F:	
Tarr	7
562B:	
Gosil	7
562C:	
Gosil	7
566A:	
Tint	7
568A:	
Majik	10
569A:	
Newlang	10
576B:	
Tintson	1S
601C:	
Beavercreek	4
606A:	
Huntsville	1
608A:	
Lawson	10
609A:	
Otter	10
625A:	
Arenzville	3
626A:	
Arenzville	3
628A:	
Orion	10
629A:	
Ettrick	10
656A:	
Scotah	7
666A:	
Absco	7A
676A:	
Kickapoo	1
739A:	
Root	10
743C2:	
Council	3A

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and soil name	Conservation tree/shrub suitability group
743D2:	
Council	3A
743E2:	
Council	3A
1125F:	
Dorerton	3
Elbaville	3
1145F:	
Gaphill	4
Rockbluff	6A
1155F:	
Brodale	6KK
Bellechester	6
Rock outcrop.	
1233F:	
Boone	6A
Tarr	7
1658A:	
Algansee	7
Kalmarville	10
1743F:	
Council	3A
Elevasil	6GA
Norden	6D
2002.	
Udorthents, earthen dams	
2003A.	
Riverwash	
2013, 2014.	
Pits	
2020.	
Urban land, valley trains	
2030:	
Udorthents, cut or fill.	
Udipsamments, cut or fill.	

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and soil name	Conservation tree/shrub suitability group
2040. Udipsamments, dredge material	
2050. Landfill	
M-W. Miscellaneous water	
W. Water	

Table 11.--Forest Land Harvest Equipment Considerations

(Only the soils that are commonly used as forest land are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forest land harvest equipment considerations
110D3:	
Timula	Slope
110E2:	
Timula	Slope
114B2:	
Mt. Carroll	Susceptible to rutting and wheel slippage
132B2:	
Brinkman	Wetness Susceptible to rutting and wheel slippage
132C2:	
Brinkman	Wetness Susceptible to rutting and wheel slippage
133B2:	
Valton	Susceptible to rutting and wheel slippage
133C2:	
Valton	Susceptible to rutting and wheel slippage
133D2:	
Valton	Slope Susceptible to rutting and wheel slippage
134C2:	
Lamoille	Susceptible to rutting and wheel slippage
134D2:	
Lamoille	Slope Susceptible to rutting and wheel slippage
163E2:	
Elbaville	Slope Susceptible to rutting and wheel slippage
202C2:	
Lambeau	Susceptible to rutting and wheel slippage
202D2:	
Lambeau	Slope Susceptible to rutting and wheel slippage
213D2:	
Hixton	Slope Susceptible to rutting and wheel slippage
213E2:	
Hixton	Slope Susceptible to rutting and wheel slippage
253C2:	
Greenridge	Susceptible to rutting and wheel slippage
253D2:	
Greenridge	Slope Susceptible to rutting and wheel slippage

Table 11.--Forest Land Harvest Equipment Considerations--Continued

Map symbol and soil name	Forest land harvest equipment considerations
296B:	
Ludington	Wetness Poor traction (loose sandy material)
312B2:	
Festina	Susceptible to rutting and wheel slippage
326B2:	
Medary	Wetness Susceptible to rutting and wheel slippage
326F:	
Medary	Slope Wetness Susceptible to rutting and wheel slippage
424B:	
Merit	Susceptible to rutting and wheel slippage
424D2:	
Merit	Slope Susceptible to rutting and wheel slippage
424F:	
Merit	Slope Susceptible to rutting and wheel slippage
434C2:	
Bilson	No major considerations
446A:	
Merimod	Wetness Susceptible to rutting and wheel slippage
456A:	
Bilmod	Wetness
483B2:	
Brice	Poor traction (loose sandy material)
551A:	
Impact	Poor traction (loose sandy material)
556A:	
Mindoro	Poor traction (loose sandy material)
561C:	
Tarr	Poor traction (loose sandy material)
561F:	
Tarr	Slope Poor traction (loose sandy material)
562B:	
Gosil	Poor traction (loose sandy material)
562C:	
Gosil	Poor traction (loose sandy material)
568A:	
Majik	Wetness Poor traction (loose sandy material)

Table 11.--Forest Land Harvest Equipment Considerations--Continued

Map symbol and soil name	Forest land harvest equipment considerations
569A:	
Newlang	Wetness Susceptible to rutting and wheel slippage Poor traction (loose sandy material)
576B:	
Tintson	Wetness Poor traction (loose sandy material)
606A:	
Huntsville	Susceptible to rutting and wheel slippage
608A:	
Lawson	Wetness Susceptible to rutting and wheel slippage
625A:	
Arenzville	No major considerations
666A:	
Absco	Poor traction (loose sandy material)
676A:	
Kickapoo	No major considerations
739A:	
Root	Flooding Wetness
743C2:	
Council	No major considerations
743D2:	
Council	Slope
743E2:	
Council	Slope
1743F:	
Council	Slope
Elevasil	Slope
Norden	Slope Susceptible to rutting and wheel slippage

Table 12.--Forest Haul Road Considerations

(Only the soils that are commonly used as forest land are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forest haul road considerations
110D3:	
Timula	Slope
110E2:	
Timula	Slope
114B2:	
Mt. Carroll	Low bearing strength
132B2:	
Brinkman	Wetness Low bearing strength
132C2:	
Brinkman	Slope Wetness Low bearing strength
133B2:	
Valton	Low bearing strength
133C2:	
Valton	Slope Low bearing strength
133D2:	
Valton	Slope Low bearing strength
134C2:	
Lamoille	Slope Low bearing strength
134D2:	
Lamoille	Slope Low bearing strength
163E2:	
Elbaville	Slope Low bearing strength
202C2:	
Lambeau	Slope Low bearing strength
202D2:	
Lambeau	Slope Low bearing strength
213D2:	
Hixton	Slope Low bearing strength
213E2:	
Hixton	Slope Low bearing strength
253C2:	
Greenridge	Slope Low bearing strength

Table 12.--Forest Haul Road Considerations--Continued

Map symbol and soil name	Forest haul road considerations
253D2:	
Greenridge	Slope Low bearing strength
296B:	
Ludington	Wetness
312B2:	
Festina	Low bearing strength
326B2:	
Medary	Wetness Low bearing strength
326F:	
Medary	Slope Wetness Low bearing strength
424B:	
Merit	Low bearing strength
424D2:	
Merit	Slope Low bearing strength
424F:	
Merit	Slope Low bearing strength
434C2:	
Bilson	Slope
446A:	
Merimod	Wetness Low bearing strength
456A:	
Bilmod	Wetness
483B2:	
Brice	No major considerations
551A:	
Impact	No major considerations
556A:	
Mindoro	No major considerations
561C:	
Tarr	Slope
561F:	
Tarr	Slope
562B:	
Gosil	No major considerations
562C:	
Gosil	Slope
568A:	
Majik	Wetness

Table 12.--Forest Haul Road Considerations--Continued

Map symbol and soil name	Forest haul road considerations
569A:	
Newlang	Wetness Low bearing strength
576B:	
Tintson	Wetness
606A:	
Huntsville	Low bearing strength
608A:	
Lawson	Wetness Low bearing strength
625A:	
Arenzville	No major considerations
666A:	
Absco	No major considerations
676A:	
Kickapoo	No major considerations
739A:	
Root	Flooding Wetness
743C2:	
Council	Slope
743D2:	
Council	Slope
743E2:	
Council	Slope
1743F:	
Council	Slope
Elevasil	Slope
Norden	Slope Low bearing strength

Table 13.--Forest Log Landing Considerations

(Only the soils that are commonly used as forest land are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forest log landing considerations
110D3:	
Timula	Slope
110E2:	
Timula	Slope
114B2:	
Mt. Carroll	Susceptible to rutting and wheel slippage
132B2:	
Brinkman	Wetness Susceptible to rutting and wheel slippage
132C2:	
Brinkman	Slope Wetness Susceptible to rutting and wheel slippage
133B2:	
Valton	Susceptible to rutting and wheel slippage
133C2:	
Valton	Slope Susceptible to rutting and wheel slippage
133D2:	
Valton	Slope Susceptible to rutting and wheel slippage
134C2:	
Lamoille	Slope Susceptible to rutting and wheel slippage
134D2:	
Lamoille	Slope Susceptible to rutting and wheel slippage
163E2:	
Elbaville	Slope Susceptible to rutting and wheel slippage
202C2:	
Lambeau	Slope Susceptible to rutting and wheel slippage
202D2:	
Lambeau	Slope Susceptible to rutting and wheel slippage
213D2:	
Hixton	Slope Susceptible to rutting and wheel slippage
213E2:	
Hixton	Slope Susceptible to rutting and wheel slippage
253C2:	
Greenridge	Slope Susceptible to rutting and wheel slippage

Table 13.--Forest Log Landing Considerations--Continued

Map symbol and soil name	Forest log landing considerations
253D2:	
Greenridge	Slope Susceptible to rutting and wheel slippage
296B:	
Ludington	Wetness
312B2:	
Festina	Susceptible to rutting and wheel slippage
326B2:	
Medary	Wetness Susceptible to rutting and wheel slippage
326F:	
Medary	Slope Wetness Susceptible to rutting and wheel slippage
424B:	
Merit	Susceptible to rutting and wheel slippage
424D2:	
Merit	Slope Susceptible to rutting and wheel slippage
424F:	
Merit	Slope Susceptible to rutting and wheel slippage
434C2:	
Bilson	Slope
446A:	
Merimod	Wetness Susceptible to rutting and wheel slippage
456A:	
Bilmod	Wetness
483B2:	
Brice	No major considerations
551A:	
Impact	No major considerations
556A:	
Mindoro	No major considerations
561C:	
Tarr	Slope
561F:	
Tarr	Slope
562B:	
Gosil	No major considerations
562C:	
Gosil	Slope
568A:	
Majik	Wetness

Table 13.--Forest Log Landing Considerations--Continued

Map symbol and soil name	Forest log landing considerations
569A:	
Newlang	Flooding Wetness Susceptible to rutting and wheel slippage
576B:	
Tintson	Wetness
606A:	
Huntsville	Susceptible to rutting and wheel slippage
608A:	
Lawson	Flooding Wetness Susceptible to rutting and wheel slippage
625A:	
Arenzville	Flooding
666A:	
Absco	Flooding
676A:	
Kickapoo	Flooding
739A:	
Root	Flooding Wetness
743C2:	
Council	Slope
743D2:	
Council	Slope
743E2:	
Council	Slope
1743F:	
Council	Slope
Elevasil	Slope
Norden	Slope Susceptible to rutting and wheel slippage

Table 14.--Forest Land Site Preparation and Planting Considerations

(Only the soils that are commonly used as forest land are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forest land site preparation and planting considerations
110D3:	
Timula	Slope Water erosion
110E2:	
Timula	Slope Water erosion
114B2:	
Mt. Carroll	Potential poor tilth and compaction
132B2:	
Brinkman	Wetness Potential poor tilth and compaction
132C2:	
Brinkman	Wetness Water erosion Potential poor tilth and compaction
133B2:	
Valton	Potential poor tilth and compaction
133C2:	
Valton	Water erosion Potential poor tilth and compaction
133D2:	
Valton	Slope Water erosion Potential poor tilth and compaction
134C2:	
Lamoille	Cobbly surface Water erosion Potential poor tilth and compaction
134D2:	
Lamoille	Slope Cobbly surface Water erosion Potential poor tilth and compaction
163E2:	
Elbaville	Slope Water erosion Potential poor tilth and compaction
202C2:	
Lambeau	Water erosion Potential poor tilth and compaction
202D2:	
Lambeau	Slope Water erosion Potential poor tilth and compaction
213D2:	
Hixton	Slope Water erosion

Table 14.--Forest Land Site Preparation and Planting Considerations--Continued

Map symbol and soil name	Forest land site preparation and planting considerations
213E2:	
Hixton	Slope Water erosion
253C2:	
Greenridge	Water erosion Potential poor tilth and compaction
253D2:	
Greenridge	Slope Water erosion Potential poor tilth and compaction
296B:	
Ludington	Wetness
312B2:	
Festina	Potential poor tilth and compaction
326B2:	
Medary	Wetness Potential poor tilth and compaction
326F:	
Medary	Slope Wetness Water erosion Potential poor tilth and compaction
424B:	
Merit	Potential poor tilth and compaction
424D2:	
Merit	Slope Water erosion Potential poor tilth and compaction
424F:	
Merit	Slope Water erosion Potential poor tilth and compaction
434C2:	
Bilson	Water erosion
446A:	
Merimod	Wetness Potential poor tilth and compaction
456A:	
Bilmod	Wetness
483B2:	
Brice	No major considerations
551A:	
Impact	Cobbly surface
556A:	
Mindoro	Cobbly surface

Table 14.--Forest Land Site Preparation and Planting Considerations--Continued

Map symbol and soil name	Forest land site preparation and planting considerations
561C:	
Tarr	Cobbly surface Water erosion
561F:	
Tarr	Slope Cobbly surface Water erosion
562B:	
Gosil	Cobbly surface
562C:	
Gosil	Cobbly surface Water erosion
568A:	
Majik	Wetness
569A:	
Newlang	Wetness Cobbly surface
576B:	
Tintson	Wetness
606A:	
Huntsville	No major considerations
608A:	
Lawson	Wetness
625A:	
Arenzville	No major considerations
666A:	
Absco	Cobbly surface
676A:	
Kickapoo	No major considerations
739A:	
Root	Flooding Wetness Cobbly surface
743C2:	
Council	Water erosion
743D2:	
Council	Slope Water erosion
743E2:	
Council	Slope Water erosion

Table 14.--Forest Land Site Preparation and Planting Considerations--Continued

Map symbol and soil name	Forest land site preparation and planting considerations
1743F:	
Council	Slope Water erosion
Elevasil	Slope Water erosion
Norden	Slope Water erosion

Table 15.--Forest Habitat Types

(See text for descriptions of the habitat types listed in this table)

Map symbol and soil name	Habitat type	Dominance	Short scientific name
20A:			
Palms	Nvpd	Dominant	N/A (very poorly drained soil)
Houghton	Nvpd	Dominant	N/A (very poorly drained soil)
21A:			
Palms	Nvpd	Dominant	N/A (very poorly drained soil)
30A:			
Adder	Nvpd	Dominant	N/A (very poorly drained soil)
110D3, 110E2:			
Timula	ATiSa	Dominant	Acer-Tilia/Sanguinaria
114B2:			
Mt. Carroll	ATiCa	Dominant	Acer-Tilia/Caulophyllum
115C2, 115D2, 115E2:			
Seaton	ATiCa	Dominant	Acer-Tilia/Caulophyllum
116C2, 116D2:			
Churchtown	ATiCa	Dominant	Acer-Tilia/Caulophyllum
116E2:			
Churchtown	ATiCa	Codominant	Acer-Tilia/Caulophyllum
	ATiDe	Codominant	Acer-Tilia/Desmodium
126B:			
Barremills	ATiCa	Dominant	Acer-Tilia/Caulophyllum
132B2, 132C2:			
Brinkman	ATiCa	Dominant	Acer-Tilia/Caulophyllum
133B2, 133C2, 133D2:			
Valton	ATiSa	Dominant	Acer-Tilia/Sanguinaria
134C2, 134D2:			
Lamoille	ATiDe	Dominant	Acer-Tilia/Desmodium
163E2:			
Elbaville	ATiDe	Codominant	Acer-Tilia/Desmodium
	ATiCa	Codominant	Acer-Tilia/Caulophyllum
202C2, 202D2:			
Lambeau	ATiSa	Dominant	Acer-Tilia/Sanguinaria
213D2:			
Hixton	ArCi-Ph	Dominant	Acer rubrum/Circaea (Phryma)
213E2:			
Hixton	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
224B, 224C2, 224D2:			
Elevasil	PVCr	Codominant	Pinus/Vaccinium-Cornus
	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
233C:			
Boone	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia

Table 15.--Forest Habitat Types--Continued

Map symbol and soil name	Habitat type	Dominance	Short scientific name
253C2, 253D2:			
Greenridge	ATiCa	Dominant	Acer-Tilia/Caulophyllum
254C2, 254D2:			
Norden	ArCi-Ph	Dominant	Acer rubrum/Circaea (Phryma)
254E2:			
Norden	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
	ATiDe(Pr)	Codominant	Acer-Tilia/Desmodium-Prunus
296B:			
Ludington	PVRh	Codominant	Pinus/Vaccinium-Rubus
	PVCr	Codominant	Pinus/Vaccinium-Cornus
312B2:			
Festina	ATiCa	Dominant	Acer-Tilia/Caulophyllum
318A:			
Bearpen	ATiCa	Dominant	Acer-Tilia/Caulophyllum
326B2:			
Medary	ATiDe	Dominant	Acer-Tilia/Desmodium
326F:			
Medary	ATiDe	Codominant	Acer-Tilia/Desmodium
	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
336A:			
Toddville	ATiCa	Dominant	Acer-Tilia/Caulophyllum
403A:			
Dakota	ArCi-Ph	Dominant	Acer rubrum/Circaea (Phryma)
413A:			
Rasset	PVCr	Codominant	Pinus/Vaccinium-Cornus
	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
424B, 424D2:			
Merit	ArCi-Ph	Dominant	Acer rubrum/Circaea (Phryma)
424F:			
Merit	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
433B:			
Forkhorn	ArDe-V	Dominant	Acer rubrum/Desmodium (Vaccinium)
434B, 434C2:			
Bilson	ArDe-V	Dominant	Acer rubrum/Desmodium (Vaccinium)
446A:			
Merimod	ArCi-Ph	Dominant	Acer rubrum/Circaea (Phryma)
456A:			
Bilmod	ArDe-V	Dominant	Acer rubrum/Desmodium (Vaccinium)
458A:			
Hoop	PVRh	Codominant	Pinus/Vaccinium-Rubus
	PVCr	Codominant	Pinus/Vaccinium-Cornus
483B2:			
Brice	PVCr	Dominant	Pinus/Vaccinium-Cornus

Table 15.--Forest Habitat Types--Continued

Map symbol and soil name	Habitat type	Dominance	Short scientific name
501A:			
Finchford	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
502B2, 502C2:			
Chelsea	PVCr	Codominant	Pinus/Vaccinium-Cornus
	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
511B, 511C:			
Plainfield	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
511F:			
Plainfield	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
	PVCr	Codominant	Pinus/Vaccinium-Cornus
551A:			
Impact	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
556A:			
Mindoro	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
561B, 561C:			
Tarr	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
561F:			
Tarr	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
562B, 562C:			
Gosil	PVCr	Dominant	Pinus/Vaccinium-Cornus
566A:			
Tint	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
568A:			
Majik	PVRh	Codominant	Pinus/Vaccinium-Rubus
	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
569A:			
Newlang	Npd	Dominant	N/A (wet mineral upland soil)
576B:			
Tintson	PVCr	Codominant	Pinus/Vaccinium-Cornus
	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
601C:			
Beavercreek	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
	ATiDe	Codominant	Acer-Tilia/Desmodium
606A:			
Huntsville	Nflp	Dominant	N/A (flood-plain soil)
608A:			
Lawson	Nflp	Dominant	N/A (flood-plain soil)
609A:			
Otter	Nflp	Dominant	N/A (flood-plain soil)
625A, 626A:			
Arenzville	Nflp	Dominant	N/A (flood-plain soil)
628A:			
Orion	Nflp	Dominant	N/A (flood-plain soil)

Table 15.--Forest Habitat Types--Continued

Map symbol and soil name	Habitat type	Dominance	Short scientific name
629A:			
Ettrick	Npd	Dominant	N/A (poorly drained soil)
656A:			
Scotah	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
666A:			
Absco	PVGy	Dominant	Pinus/Vaccinium-Gaylussacia
676A:			
Kickapoo	Nflp	Dominant	N/A (flood-plain soil)
739A:			
Root	Nflp	Dominant	N/A (flood-plain soil)
743C2, 743D2:			
Council	ATiDe	Dominant	Acer-Tilia/Desmodium
743E2:			
Council	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
	ATiDe	Codominant	Acer-Tilia/Desmodium
1125F:			
Dorerton	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
	ATiCa	Codominant	Acer-Tilia/Caulophyllum
Elbaville	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
	ATiCa	Codominant	Acer-Tilia/Caulophyllum
1145F:			
Gaphill	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
Rockbluff	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
1155F:			
Brodale	Nnw	Dominant	N/A (goat prairie)
Bellechester	Nnw	Dominant	N/A (goat prairie)
Rock outcrop.			
1233F:			
Boone	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
	PVCr	Codominant	Pinus/Vaccinium-Cornus
Tarr	PVGy	Codominant	Pinus/Vaccinium-Gaylussacia
	PVCr	Codominant	Pinus/Vaccinium-Cornus
1658A:			
Algansee	Nflp	Dominant	N/A (flood-plain soil)
Kalmarville	Nflp	Dominant	N/A (flood-plain soil)
1743F:			
Council	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
	PVCr	Codominant	Pinus/Vaccinium-Cornus
	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
Elevasil	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
	PVCr	Codominant	Pinus/Vaccinium-Cornus
	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)

Table 15.--Forest Habitat Types--Continued

Map symbol and soil name	Habitat type	Dominance	Short scientific name
1743F:			
Norden-------------------	ArDe-V	Codominant	Acer rubrum/Desmodium (Vaccinium)
	PVCr	Codominant	Pinus/Vaccinium-Cornus
	ArCi-Ph	Codominant	Acer rubrum/Circaea (Phryma)
2002:			
Udorthents, earthen dams	Nma	Dominant	N/A (miscellaneous area)
2003A:			
Riverwash----------------	Nfld	Dominant	N/A (flood-plain soils)
2013, 2014:			
Pits---------------------	Nma	Dominant	N/A (miscellaneous area)
2020:			
Urban land, valley trains	Nma	Dominant	N/A (miscellaneous area)
2030:			
Udorthents, cut or fill--	Nma	Dominant	N/A (miscellaneous area)
Udipsamments, cut or fill	Nma	Dominant	N/A (miscellaneous area)
2040:			
Udipsamments, dredge material----------------	Nma	Dominant	N/A (miscellaneous area)
2050:			
Landfill-----------------	Nma	Dominant	N/A (miscellaneous area)
M-W:			
Miscellaneous water------	Nma	Dominant	N/A (miscellaneous area)
W:			
Water--------------------	Nma	Dominant	N/A (miscellaneous area)

Table 16a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:						
Palms	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Ponding	1.00
Houghton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Ponding	1.00
21A:						
Palms	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Ponding	1.00	Content of organic matter	1.00	Flooding	1.00
	Content of organic matter	1.00	Flooding	0.40	Ponding	1.00
30A:						
Adder	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Ponding	1.00	Content of organic matter	1.00	Flooding	1.00
	Content of organic matter	1.00	Flooding	0.40	Ponding	1.00
110D3:						
Timula	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
110E2:						
Timula	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
114B2:						
Mt. Carroll	Not limited		Not limited		Somewhat limited	
					Slope	0.50
115C2:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
115D2:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115E2:						
Seaton-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
116C2:						
Churchtown----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
					Content of large stones	0.03
116D2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Content of large stones	0.03
116E2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Content of large stones	0.03
126B:						
Barremills----------	Not limited		Not limited		Somewhat limited	
					Slope	0.12
132B2:						
Brinkman-----------	Not limited		Not limited		Somewhat limited	
					Slope	0.50
132C2:						
Brinkman-----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
133B2:						
Valton-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
					Slope	0.50
					Gravel content	0.06
133C2:						
Valton-------------	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.98	Restricted permeability	0.98	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.98
					Gravel content	0.06
133D2:						
Valton-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
					Gravel content	0.06
134C2:						
Lamoille-----------	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.98	Restricted permeability	0.98	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.98

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
134D2:						
Lamoille	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
163E2:						
Elbaville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
202C2:						
Lambeau	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
202D2:						
Lambeau	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
213D2:						
Hixton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
213E2:						
Hixton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
224B:						
Elevasil	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Depth to bedrock	0.42
224C2:						
Elevasil	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
					Depth to bedrock	0.42
224D2:						
Elevasil	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
233C:						
Boone	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Too sandy	1.00
					Depth to bedrock	0.42
					Content of large stones	0.01
253C2:						
Greenridge	Not limited		Not limited		Very limited	
					Slope	1.00
253D2:						
Greenridge	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
254C2:						
Norden	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
					Depth to bedrock	0.42
254D2:						
Norden	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
254E2:						
Norden	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
296B:						
Ludington	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
					Depth to bedrock	0.42
					Depth to saturated zone	0.39
312B2:						
Festina	Not limited		Not limited		Somewhat limited	
					Slope	0.50
318A:						
Bearpen	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98				
326B2:						
Medary	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.12
326F:						
Medary	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
336A:						
Toddville	Not limited		Not limited		Not limited	
403A:						
Dakota	Not limited		Not limited		Not limited	
413A:						
Rasset	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
424B:						
Merit	Not limited		Not limited		Somewhat limited	
					Slope	0.12

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
424D2:						
Merit	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
424F:						
Merit	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
433B:						
Forkhorn	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Gravel content	0.03
					Content of large stones	0.01
434B:						
Bilson	Not limited		Not limited		Somewhat limited	
					Slope	0.12
434C2:						
Bilson	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
446A:						
Merimod	Not limited		Not limited		Not limited	
456A:						
Bilmod	Not limited		Not limited		Not limited	
458A:						
Hoop	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
483B2:						
Brice	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.34	Too sandy	0.34	Slope	0.50
					Too sandy	0.34
501A:						
Finchford	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.79	Too sandy	0.79	Too sandy	0.79
502B2:						
Chelsea	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.50
502C2:						
Chelsea	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Too sandy	1.00
511B:						
Plainfield	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.50
					Gravel content	0.06

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
511C:						
Plainfield	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Too sandy	1.00
					Gravel content	0.06
511F:						
Plainfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
551A:						
Impact	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
556A:						
Mindoro	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
561B:						
Tarr	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.50
561C:						
Tarr	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Too sandy	1.00
561F:						
Tarr	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
562B:						
Gosil	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.57	Too sandy	0.57	Too sandy	0.57
					Slope	0.12
562C:						
Gosil	Somewhat limited		Somewhat limited		Very limited	
	Too sandy	0.57	Too sandy	0.57	Slope	1.00
	Slope	0.04	Slope	0.04	Too sandy	0.57
566A:						
Tint	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
568A:						
Majik	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Too sandy	0.94	Depth to saturated zone	0.98
	Too sandy	0.94	Depth to saturated zone	0.75	Too sandy	0.94
569A:						
Newlang	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
576B:						
Tintson-------------	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.12
601C:						
Beavercreek---------	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Gravel content	0.18	Gravel content	1.00
	Gravel content	0.18			Slope	1.00
					Flooding	0.60
					Content of large stones	0.20
606A:						
Huntsville----------	Very limited		Not limited		Not limited	
	Flooding	1.00				
608A:						
Lawson--------------	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60
609A:						
Otter---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
625A:						
Arenzville----------	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60
626A:						
Arenzville----------	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60
628A:						
Orion---------------	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60
629A:						
Ettrick-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Restricted permeability	0.96	Ponding	1.00
	Restricted permeability	0.96	Flooding	0.40	Restricted permeability	0.96
656A:						
Scotah--------------	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Too sandy	0.87	Too sandy	0.87
	Too sandy	0.87			Flooding	0.60

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
666A:						
Absco	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Too sandy	0.66	Too sandy	0.66
	Too sandy	0.66			Flooding	0.60
676A:						
Kickapoo	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60
					Gravel content	0.22
739A:						
Root	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
	Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
					Content of large stones	0.01
743C2:						
Council	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
					Gravel content	0.06
743D2:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.06
743E2:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.06
1125F:						
Dorerton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too stony	0.76	Too stony	0.76	Too stony	0.76
					Content of large stones	0.01
Elbaville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
1145F:						
Gaphill	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rockbluff	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
1155F:						
Brodale	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too stony	1.00	Too stony	1.00	Too stony	1.00
	Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
	Content of large stones	0.02	Content of large stones	0.02	Content of large stones	0.99

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
1155F:						
Bellechester--------	Very limited		Very limited		Very limited	
	Slope	1.00	Too sandy	1.00	Slope	1.00
	Too sandy	1.00	Slope	1.00	Too sandy	1.00
					Gravel content	0.03
					Content of large stones	0.01
Rock outcrop--------	Not rated		Not rated		Not rated	
1233F:						
Boone---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
Tarr----------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
1658A:						
Algansee------------	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
Kalmarville---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
1743F:						
Council-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Elevasil------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
Norden--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
2002:						
Udorthents, earthen dams---------------	Not rated		Not rated		Not rated	
2003A:						
Riverwash-----------	Not rated		Not rated		Not rated	
2013:						
Pits, gravel--------	Not rated		Not rated		Not rated	
2014:						
Pits, quarry, hard bedrock------------	Not rated		Not rated		Not rated	
2020:						
Urban land, valley trains-------------	Not rated		Not rated		Not rated	

Table 16a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2030:						
Udorthents, cut or fill	Not rated		Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated		Not rated	
2040:						
Udipsamments, dredge material	Not rated		Not rated		Not rated	
2050:						
Landfill	Not rated		Not rated		Not rated	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	

Table 16b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:						
Palms	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Houghton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
21A:						
Palms	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Flooding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40		
30A:						
Adder	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Flooding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40		
110D3:						
Timula	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02				
110E2:						
Timula	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00				
114B2:						
Mt. Carroll	Not limited		Not limited		Not limited	
115C2:						
Seaton	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
115D2:						
Seaton	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02				

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
115E2:						
Seaton--------------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00				
116C2:						
Churchtown----------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
					Content of large stones	0.03
116D2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02			Content of large stones	0.03
116E2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00			Content of large stones	0.03
126B:						
Barremills----------	Not limited		Not limited		Not limited	
132B2:						
Brinkman------------	Not limited		Not limited		Not limited	
132C2:						
Brinkman------------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
133B2:						
Valton--------------	Not limited		Not limited		Not limited	
133C2:						
Valton--------------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
133D2:						
Valton--------------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02				
134C2:						
Lamoille------------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
134D2:						
Lamoille------------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02				
163E2:						
Elbaville-----------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00				

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
202C2:						
Lambeau	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
202D2:						
Lambeau	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02				
213D2:						
Hixton	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02			Depth to bedrock	0.42
213E2:						
Hixton	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00			Depth to bedrock	0.42
224B:						
Elevasil	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
224C2:						
Elevasil	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
					Slope	0.04
224D2:						
Elevasil	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Slope	1.00
					Depth to bedrock	0.42
233C:						
Boone	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.96
					Too sandy	0.50
					Depth to bedrock	0.42
					Slope	0.37
					Content of large stones	0.01
253C2:						
Greenridge	Not limited		Not limited		Not limited	
253D2:						
Greenridge	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02				
254C2:						
Norden	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.42
					Slope	0.04
254D2:						
Norden	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02			Depth to bedrock	0.42

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
254E2:						
Norden	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00			Depth to bedrock	0.42
296B:						
Ludington	Not limited		Not limited		Somewhat limited	
					Droughty	0.46
					Depth to bedrock	0.42
					Depth to saturated zone	0.19
312B2:						
Festina	Not limited		Not limited		Not limited	
318A:						
Bearpen	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
326B2:						
Medary	Not limited		Not limited		Not limited	
326F:						
Medary	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.22		
336A:						
Toddville	Not limited		Not limited		Not limited	
403A:						
Dakota	Not limited		Not limited		Not limited	
413A:						
Rasset	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
424B:						
Merit	Not limited		Not limited		Not limited	
424D2:						
Merit	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Slope	1.00
424F:						
Merit	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.56	Slope	1.00
433B:						
Forkhorn	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
434B:						
Bilson	Not limited		Not limited		Not limited	
434C2:						
Bilson	Not limited		Not limited		Somewhat limited	
					Slope	0.04

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
446A:						
Merimod	Not limited		Not limited		Not limited	
456A:						
Bilmod	Not limited		Not limited		Not limited	
458A:						
Hoop	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
483B2:						
Brice	Somewhat limited		Somewhat limited		Not limited	
	Too sandy	0.34	Too sandy	0.34		
501A:						
Finchford	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.79	Too sandy	0.79	Droughty	0.26
502B2:						
Chelsea	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.13
502C2:						
Chelsea	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Slope	0.37
					Droughty	0.13
511B:						
Plainfield	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.74
					Too sandy	0.50
511C:						
Plainfield	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.74
					Too sandy	0.50
					Slope	0.37
511F:						
Plainfield	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.96	Slope	1.00
					Droughty	0.25
551A:						
Impact	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	0.50
					Droughty	0.14
556A:						
Mindoro	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	0.50
					Droughty	0.09
561B:						
Tarr	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.78
					Too sandy	0.50

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
561C:						
Tarr----------------	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.78
					Too sandy	0.50
					Slope	0.37
561F:						
Tarr----------------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.22	Slope	1.00
					Droughty	0.09
562B:						
Gosil---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.57	Too sandy	0.57	Droughty	0.03
562C:						
Gosil---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.57	Too sandy	0.57	Slope	0.04
					Droughty	0.03
566A:						
Tint----------------	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.66
					Too sandy	0.50
568A:						
Majik---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.94	Too sandy	0.94	Depth to saturated zone	0.75
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Droughty	0.38
569A:						
Newlang-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
					Flooding	0.60
576B:						
Tintson-------------	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.63
					Too sandy	0.50
601C:						
Beavercreek---------	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
					Content of large stones	0.20
					Gravel content	0.18
606A:						
Huntsville----------	Not limited		Not limited		Not limited	
608A:						
Lawson--------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
609A:						
Otter	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
625A:						
Arenzville	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
626A:						
Arenzville	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
628A:						
Orion	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60
629A:						
Ettrick	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
656A:						
Scotah	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.87	Too sandy	0.87	Flooding	0.60
					Droughty	0.38
666A:						
Absco	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.66	Too sandy	0.66	Droughty	0.85
					Flooding	0.60
676A:						
Kickapoo	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
739A:						
Root	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
					Gravel content	0.01
					Content of large stones	0.01
743C2:						
Council	Not limited		Not limited		Somewhat limited	
					Slope	0.04
743D2:						
Council	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Slope	1.00

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
743E2:						
Council	Very limited		Not limited		Very limited	
	Slope	1.00			Slope	1.00
1125F:						
Dorerton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too stony	0.76	Too stony	0.76	Content of large stones	0.01
Elbaville	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	0.96		
1145F:						
Gaphill	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rockbluff	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Droughty	0.01
1155F:						
Brodale	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too stony	1.00	Too stony	1.00	Carbonate content	1.00
	Content of large stones	0.02	Content of large stones	0.02	Content of large stones	0.99
					Droughty	0.59
					Gravel content	0.22
Bellechester	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too sandy	1.00	Too sandy	1.00	Droughty	0.63
					Too sandy	0.50
					Content of large stones	0.01
Rock outcrop	Not rated		Not rated		Not rated	
1233F:						
Boone	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.56	Slope	1.00
					Droughty	0.61
					Depth to bedrock	0.42
Tarr	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.22	Slope	1.00
					Droughty	0.09
1658A:						
Algansee	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
					Droughty	0.07

Table 16b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
1658A:						
Kalmarville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
1743F:						
Council	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.78	Slope	1.00
Elevasil	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
Norden	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to bedrock	0.42
2002:						
Udorthents, earthen dams	Not rated		Not rated		Not rated	
2003A:						
Riverwash	Not rated		Not rated		Not rated	
2013:						
Pits, gravel	Not rated		Not rated		Not rated	
2014:						
Pits, quarry, hard bedrock	Not rated		Not rated		Not rated	
2020:						
Urban land, valley trains	Not rated		Not rated		Not rated	
2030:						
Udorthents, cut or fill	Not rated		Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated		Not rated	
2040:						
Udipsamments, dredge material	Not rated		Not rated		Not rated	
2050:						
Landfill	Not rated		Not rated		Not rated	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	

Table 17.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
20A:										
Palms	Very poor	Very poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
Houghton	Very poor	Very poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
21A:										
Palms	Very poor	Very poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
30A:										
Adder	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
110D3:										
Timula	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
110E2:										
Timula	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
114B2:										
Mt. Carroll	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
115C2:										
Seaton	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
115D2:										
Seaton	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
115E2:										
Seaton	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
116C2:										
Churchtown	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
116D2:										
Churchtown	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
116E2:										
Churchtown	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
126B:										
Barremills	Good	Good	Good	Good	Good	Poor	Poor	Good	Poor	Poor
132B2:										
Brinkman	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor

Table 17.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
132C2:										
Brinkman	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
133B2:										
Valton	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
133C2:										
Valton	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
133D2:										
Valton	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
134C2:										
Lamoille	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
134D2:										
Lamoille	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
163E2:										
Elbaville	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
202C2:										
Lambeau	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
202D2:										
Lambeau	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
213D2:										
Hixton	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
213E2:										
Hixton	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
224B:										
Elevasil	Fair	Good	Good	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
224C2:										
Elevasil	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
224D2:										
Elevasil	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
233C:										
Boone	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor

Table 17.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
253C2: Greenridge	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
253D2: Greenridge	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
254C2: Norden	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
254D2: Norden	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
254E2: Norden	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
296B: Ludington	Poor	Poor	Good	Fair	Fair	Poor	Poor	Fair	Fair	Poor
312B2: Festina	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
318A: Bearpen	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
326B2: Medary	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
326F: Medary	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
336A: Toddville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
403A: Dakota	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
413A: Rasset	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
424B: Merit	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
424D2: Merit	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
424F: Merit	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 17.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
433B: Forkhorn	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
434B: Bilson	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
434C2: Bilson	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
446A: Merimod	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
456A: Bilmod	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
458A: Hoop	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
483B2: Brice	Poor	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor
501A: Finchford	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
502B2: Chelsea	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
502C2: Chelsea	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
511B: Plainfield	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
511C: Plainfield	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
511F: Plainfield	Very poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
551A: Impact	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
556A: Mindoro	Poor	Poor	Fair	Poor	Fair	Poor	Poor	Poor	Fair	Poor
561B: Tarr	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor

Table 17.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
561C:										
Tarr	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
561F:										
Tarr	Very poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
562B:										
Gosil	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
562C:										
Gosil	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Fair	Fair	Very poor
566A:										
Tint	Poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
568A:										
Majik	Poor	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Fair
569A:										
Newlang	Very poor	Fair	Fair	Fair	Fair	Good	Good	Poor	Fair	Good
576B:										
Tintson	Poor	Poor	Good	Fair	Fair	Poor	Poor	Fair	Fair	Poor
601C:										
Beavercreek	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
606A:										
Huntsville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
608A:										
Lawson	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
609A:										
Otter	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
625A:										
Arenzville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
626A:										
Arenzville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
628A:										
Orion	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
629A:										
Ettrick	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
656A:										
Scotah	Poor	Fair	Good	Fair	Fair	Poor	Poor	Fair	Fair	Poor
666A:										
Absco	Poor	Fair	Good	Fair	Fair	Poor	Poor	Fair	Fair	Poor

Table 17.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
676A:										
Kickapoo	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
739A:										
Root	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
743C2:										
Council	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
743D2:										
Council	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
743E2:										
Council	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
1125F:										
Dorerton	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Elbaville	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
1145F:										
Gaphill	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Rockbluff	Very poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Very poor	Fair	Very poor
1155F:										
Brodale	Very poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
Bellechester	Very poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
Rock outcrop.										
1233F:										
Boone	Very poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
Tarr	Very poor	Poor	Fair	Poor	Fair	Very poor	Very poor	Poor	Fair	Very poor
1658A:										
Algansee	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Kalmarville	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
1743F:										
Council	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor

Table 17.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
1743F:										
Elevasil----------------	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Good	Very poor
Norden------------------	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
2002. Udorthents, earthen dams										
2003A. Riverwash										
2013, 2014. Pits										
2020. Urban land, valley trains										
2030: Udorthents, cut or fill										
Udipsamments, cut or fill										
2040. Udipsamments, dredge material										
2050. Landfill										
M-W. Miscellaneous water										
W. Water										

Table 18a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:						
Palms	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00			Content of organic matter	1.00
Houghton	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
21A:						
Palms	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00			Content of organic matter	1.00
30A:						
Adder	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
110D3:						
Timula	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
110E2:						
Timula	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
114B2:						
Mt. Carroll	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
115C2:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115D2:						
Seaton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
115E2:						
Seaton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
116C2:						
Churchtown----------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Slope	0.04	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
116D2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
116E2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
126B:						
Barremills----------	Not limited		Somewhat limited		Not limited	
			Shrink-swell	0.50		
			Depth to saturated zone	0.35		
132B2:						
Brinkman------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.35		
132C2:						
Brinkman------------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.04	Depth to saturated zone	0.35	Shrink-swell	0.50
			Slope	0.04		
133B2:						
Valton--------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
133C2:						
Valton--------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Slope	0.04	Slope	0.04	Slope	1.00
133D2:						
Valton--------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Shrink-swell	1.00

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
134C2:						
Lamoille	Very limited		Somewhat limited		Very limited	
	Shrink-swell	1.00	Slope	0.04	Shrink-swell	1.00
	Slope	0.04			Slope	1.00
134D2:						
Lamoille	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Slope	1.00	Slope	1.00
	Slope	1.00			Shrink-swell	1.00
163E2:						
Elbaville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
202C2:						
Lambeau	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
202D2:						
Lambeau	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
213D2:						
Hixton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42		
213E2:						
Hixton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42		
224B:						
Elevasil	Not limited		Somewhat limited		Not limited	
			Depth to soft bedrock	0.42		
224C2:						
Elevasil	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Depth to soft bedrock	0.42	Slope	1.00
			Slope	0.04		
224D2:						
Elevasil	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.42		

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
233C:						
Boone	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Depth to soft bedrock	0.42	Slope	1.00
			Slope	0.37		
253C2:						
Greenridge	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
					Shrink-swell	0.50
253D2:						
Greenridge	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
254C2:						
Norden	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.04	Depth to soft bedrock	0.42	Shrink-swell	0.50
			Slope	0.04		
254D2:						
Norden	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42		
254E2:						
Norden	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42		
296B:						
Ludington	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
			Depth to soft bedrock	0.42		
312B2:						
Festina	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
318A:						
Bearpen	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
326B2:						
Medary	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
			Depth to saturated zone	0.95		

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
326F:						
Medary	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
			Depth to saturated zone	0.95		
336A:						
Toddville	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.61	Shrink-swell	0.50
			Shrink-swell	0.50		
403A:						
Dakota	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
413A:						
Rasset	Not limited		Not limited		Not limited	
424B:						
Merit	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
424D2:						
Merit	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
424F:						
Merit	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
433B:						
Forkhorn	Not limited		Not limited		Not limited	
434B:						
Bilson	Not limited		Not limited		Not limited	
434C2:						
Bilson	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
446A:						
Merimod	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.61	Shrink-swell	0.50
456A:						
Bilmod	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.61		
458A:						
Hoop	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
483B2:						
Brice	Not limited		Not limited		Not limited	
501A:						
Finchford	Not limited		Not limited		Not limited	
502B2:						
Chelsea	Not limited		Not limited		Not limited	
502C2:						
Chelsea	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
511B:						
Plainfield	Not limited		Not limited		Not limited	
511C:						
Plainfield	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
511F:						
Plainfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
551A:						
Impact	Not limited		Not limited		Not limited	
556A:						
Mindoro	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.61		
561B:						
Tarr	Not limited		Not limited		Not limited	
561C:						
Tarr	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
561F:						
Tarr	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
562B:						
Gosil	Not limited		Not limited		Not limited	
562C:						
Gosil	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
566A:						
Tint	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.61		
568A:						
Majik	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
569A:						
Newlang	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
576B:						
Tintson	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.95		
601C:						
Beavercreek	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Content of large stones	0.35	Content of large stones	0.35	Slope	1.00
					Content of large stones	0.35
606A:						
Huntsville	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.61	Shrink-swell	0.50
			Shrink-swell	0.50		
608A:						
Lawson	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
			Shrink-swell	0.50		
609A:						
Otter	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Shrink-swell	0.50		
625A:						
Arenzville	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
626A:						
Arenzville	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
628A:						
Orion	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
629A:						
Ettrick	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
656A:						
Scotah	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
666A:						
Absco	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
676A:						
Kickapoo	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
739A:						
Root	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of large stones	0.02	Content of large stones	0.02	Content of large stones	0.02
743C2:						
Council	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
743D2:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
743E2:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
1125F:						
Dorerton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Content of large stones	0.03	Shrink-swell	0.50
	Content of large stones	0.03	Depth to hard bedrock	0.01	Content of large stones	0.03
Elbaville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
1145F:						
Gaphill	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rockbluff	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
1155F:						
Brodale	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	0.83	Content of large stones	0.83	Content of large stones	0.83
Bellechester	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	Not rated		Not rated		Not rated	
1233F:						
Boone	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.42		
Tarr	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
1658A:						
Algansee	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Kalmarville	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
1743F:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Elevasil	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.42		
Norden	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42		
2002:						
Udorthents, earthen dams	Not rated		Not rated		Not rated	
2003A:						
Riverwash	Not rated		Not rated		Not rated	

Table 18a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2013:						
Pits, gravel	Not rated		Not rated		Not rated	
2014:						
Pits, quarry, hard bedrock	Not rated		Not rated		Not rated	
2020:						
Urban land, valley trains	Not rated		Not rated		Not rated	
2030:						
Udorthents, cut or fill	Not rated		Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated		Not rated	
2040:						
Udipsamments, dredge material	Not rated		Not rated		Not rated	
2050:						
Landfill	Not rated		Not rated		Not rated	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	

Table 18b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
20A:						
Palms	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Subsidence	1.00	Content of organic matter	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
Houghton	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Subsidence	1.00	Content of organic matter	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
21A:						
Palms	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Subsidence	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
30A:						
Adder	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Subsidence	1.00	Cutbanks cave	1.00	Content of organic matter	1.00
	Frost action	1.00	Content of organic matter	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80		
110D3:						
Timula	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Slope	1.00	Cutbanks cave	0.50		
110E2:						
Timula	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		
114B2:						
Mt. Carroll	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.50		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
115C2:						
Seaton--------------	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	0.50	Slope	0.04
	Low strength	1.00	Slope	0.04		
	Shrink-swell	0.50				
	Slope	0.04				
115D2:						
Seaton--------------	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Slope	1.00	Cutbanks cave	0.50		
	Low strength	1.00				
	Shrink-swell	0.50				
115E2:						
Seaton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		
	Low strength	1.00				
	Shrink-swell	0.50				
116C2:						
Churchtown----------	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	0.10	Slope	0.04
	Shrink-swell	0.50	Slope	0.04	Content of large stones	0.03
	Slope	0.04				
116D2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Slope	1.00	Cutbanks cave	0.10	Content of large stones	0.03
	Shrink-swell	0.50				
116E2:						
Churchtown----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10	Content of large stones	0.03
	Shrink-swell	0.50				
126B:						
Barremills----------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.35		
			Cutbanks cave	0.10		
132B2:						
Brinkman------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.35		
	Shrink-swell	0.50				
			Cutbanks cave	0.10		
132C2:						
Brinkman------------	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	0.35	Slope	0.04
	Shrink-swell	0.50				
	Slope	0.04	Cutbanks cave	0.10		
			Slope	0.04		

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
133B2:						
Valton--------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Too clayey	0.88		
	Shrink-swell	1.00	Cutbanks cave	0.10		
133C2:						
Valton--------------	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Too clayey	0.88	Slope	0.04
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
133D2:						
Valton--------------	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Too clayey	0.88		
	Slope	1.00	Cutbanks cave	0.10		
134C2:						
Lamoille------------	Very limited		Somewhat limited		Somewhat limited	
	Shrink-swell	1.00	Too clayey	0.88	Slope	0.04
	Frost action	0.50	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
134D2:						
Lamoille------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Slope	1.00	Slope	1.00
	Slope	1.00	Too clayey	0.88		
	Frost action	0.50	Cutbanks cave	0.10		
163E2:						
Elbaville-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	0.50		
	Frost action	0.50	Too clayey	0.03		
202C2:						
Lambeau-------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Slope	0.04
	Shrink-swell	0.50	Slope	0.04		
	Slope	0.04				
202D2:						
Lambeau-------------	Very limited		Very limited		Very limited	
	Frost action	1.00	Cutbanks cave	1.00	Slope	1.00
	Slope	1.00	Slope	1.00		
	Shrink-swell	0.50				
213D2:						
Hixton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
	Low strength	0.78	Slope	1.00	Depth to bedrock	0.42
	Shrink-swell	0.50	Depth to soft bedrock	0.42		
	Frost action	0.50				
213E2:						
Hixton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.78	Cutbanks cave	1.00	Depth to bedrock	0.42
	Shrink-swell	0.50	Depth to soft bedrock	0.42		
	Frost action	0.50				

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
224B:						
Elevasil-----------	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Depth to bedrock	0.42
			Depth to soft bedrock	0.42		
224C2:						
Elevasil-----------	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Depth to bedrock	0.42
	Slope	0.04	Depth to soft bedrock	0.42	Slope	0.04
			Slope	0.04		
224D2:						
Elevasil-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.42
			Depth to soft bedrock	0.42		
233C:						
Boone--------------	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Cutbanks cave	1.00	Droughty	0.96
			Depth to soft bedrock	0.42	Too sandy	0.50
					Depth to bedrock	0.42
			Slope	0.37	Slope	0.37
					Content of large stones	0.01
253C2:						
Greenridge----------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
253D2:						
Greenridge----------	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Slope	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
254C2:						
Norden-------------	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Shrink-swell	0.50				
	Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
	Slope	0.04	Slope	0.04		
254D2:						
Norden-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Shrink-swell	0.50				
	Frost action	0.50	Cutbanks cave	0.10		
254E2:						
Norden-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Shrink-swell	0.50				
	Frost action	0.50	Cutbanks cave	0.10		

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
296B:						
Ludington-----------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.19	Depth to saturated zone	1.00	Droughty	0.46
			Cutbanks cave	1.00	Depth to bedrock	0.42
			Depth to soft bedrock	0.42	Depth to saturated zone	0.19
312B2:						
Festina-------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
318A:						
Bearpen-------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
	Flooding	0.40				
326B2:						
Medary--------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.95		
	Shrink-swell	1.00	Too clayey	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
326F:						
Medary--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Depth to saturated zone	0.95		
	Frost action	0.50	Too clayey	0.50		
			Cutbanks cave	0.10		
336A:						
Toddville-----------	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Shrink-swell	0.50	Depth to saturated zone	0.61		
403A:						
Dakota--------------	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
413A:						
Rasset--------------	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Content of large stones	0.01
424B:						
Merit---------------	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
424D2:						
Merit---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	1.00		
	Frost action	0.50				
424F:						
Merit---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
433B:						
Forkhorn------------	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Content of large stones	0.01
434B:						
Bilson--------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
434C2:						
Bilson--------------	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
446A:						
Merimod-------------	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50	Depth to saturated zone	0.61		
456A:						
Bilmod--------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
			Depth to saturated zone	0.61		
458A:						
Hoop----------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Cutbanks cave	1.00		
483B2:						
Brice---------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
501A:						
Finchford-----------	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.26
502B2:						
Chelsea-------------	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.13
502C2:						
Chelsea-------------	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Cutbanks cave	1.00	Slope	0.37
			Slope	0.37	Droughty	0.13

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
511B:						
Plainfield	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.74
					Too sandy	0.50
511C:						
Plainfield	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Cutbanks cave	1.00	Droughty	0.74
			Slope	0.37	Too sandy	0.50
					Slope	0.37
511F:						
Plainfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	0.25
551A:						
Impact	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Too sandy	0.50
					Droughty	0.14
556A:						
Mindoro	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Too sandy	0.50
			Depth to saturated zone	0.61	Droughty	0.09
561B:						
Tarr	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.78
					Too sandy	0.50
561C:						
Tarr	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Cutbanks cave	1.00	Droughty	0.78
			Slope	0.37	Too sandy	0.50
					Slope	0.37
561F:						
Tarr	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	1.00
562B:						
Gosil	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.03
562C:						
Gosil	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.04	Cutbanks cave	1.00	Slope	0.04
			Slope	0.04	Droughty	0.03
566A:						
Tint	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.66
			Depth to saturated zone	0.61	Too sandy	0.50

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
568A:						
Majik	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.38
569A:						
Newlang	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60		
576B:						
Tintson	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.63
			Depth to saturated zone	0.95	Too sandy	0.50
601C:						
Beavercreek	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60	Content of large stones	0.20
	Content of large stones	0.35	Content of large stones	0.35	Gravel content	0.18
606A:						
Huntsville	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.61		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Flooding	0.40				
608A:						
Lawson	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
609A:						
Otter	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
625A:						
Arenzville	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
	Flooding	1.00	Depth to saturated zone	0.61		
			Flooding	0.60		

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
626A:						
Arenzville----------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
	Flooding	1.00	Depth to saturated zone	0.61		
			Flooding	0.60		
628A:						
Orion---------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Depth to saturated zone	0.75	Flooding	0.60		
629A:						
Ettrick-------------	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80		
	Low strength	1.00				
656A:						
Scotah--------------	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
			Depth to saturated zone	0.61	Droughty	0.38
			Flooding	0.60		
666A:						
Absco---------------	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Cutbanks cave	1.00	Droughty	0.85
			Depth to saturated zone	0.61	Flooding	0.60
			Flooding	0.60		
676A:						
Kickapoo------------	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Depth to saturated zone	0.61		
			Flooding	0.60		
739A:						
Root----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10	Gravel content	0.01
	Content of large stones	0.02	Content of large stones	0.02	Content of large stones	0.01
743C2:						
Council-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
	Slope	0.04	Slope	0.04		

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
743D2:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	0.10		
743E2:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	0.10		
1125F:						
Dorerton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	1.00	Content of large stones	0.01
	Frost action	0.50	Content of large stones	0.03		
	Content of large stones	0.03	Depth to hard bedrock	0.01		
Elbaville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	0.50		
	Frost action	0.50	Too clayey	0.03		
1145F:						
Gaphill	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00		
Rockbluff	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	0.01
1155F:						
Brodale	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	0.83	Content of large stones	0.83	Carbonate content	1.00
	Frost action	0.50	Cutbanks cave	0.10	Content of large stones	0.99
					Droughty	0.59
					Gravel content	0.22
Bellechester	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	0.63
					Too sandy	0.50
					Content of large stones	0.01
Rock outcrop	Not rated		Not rated		Not rated	
1233F:						
Boone	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	0.61
			Depth to soft bedrock	0.42	Depth to bedrock	0.42

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
1233F:						
Tarr	Very limited Slope	 1.00	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope Droughty	 1.00 0.09
1658A:						
Algansee	Very limited Flooding Depth to saturated zone	 1.00 0.75	Very limited Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 0.80	Very limited Flooding Depth to saturated zone Droughty	 1.00 0.75 0.07
Kalmarville	Very limited Ponding Depth to saturated zone Frost action Flooding	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 1.00 0.80	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00
1743F:						
Council	Very limited Slope Frost action	 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
Elevasil	Very limited Slope Frost action	 1.00 0.50	Very limited Slope Cutbanks cave Depth to soft bedrock	 1.00 1.00 0.42	Very limited Slope Depth to bedrock	 1.00 0.42
Norden	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Depth to soft bedrock Cutbanks cave	 1.00 0.42 0.10	Very limited Slope Depth to bedrock	 1.00 0.42
2002:						
Udorthents, earthen dams	Not rated		Not rated		Not rated	
2003A:						
Riverwash	Not rated		Not rated		Not rated	
2013:						
Pits, gravel	Not rated		Not rated		Not rated	
2014:						
Pits, quarry, hard bedrock	Not rated		Not rated		Not rated	
2020:						
Urban land, valley trains	Not rated		Not rated		Not rated	
2030:						
Udorthents, cut or fill	Not rated		Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated		Not rated	

Table 18b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2040:						
Udipsamments, dredge material-----------	Not rated		Not rated		Not rated	
2050:						
Landfill------------	Not rated		Not rated		Not rated	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water---------------	Not rated		Not rated		Not rated	

Table 19a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:				
Palms	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Seepage	1.00
	Restricted permeability	0.72	Content of organic matter	1.00
Houghton	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Content of organic matter	1.00
	Subsidence	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00
21A:				
Palms	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Seepage	1.00
	Restricted permeability	0.72	Content of organic matter	1.00
30A:				
Adder	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Content of organic matter	1.00
110D3:				
Timula	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
110E2:				
Timula	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
114B2:				
Mt. Carroll---------	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.32
115C2:				
Seaton--------------	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
			Seepage	0.53
	Slope	0.04		
115D2:				
Seaton--------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
115E2:				
Seaton--------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
116C2:				
Churchtown----------	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
			Seepage	0.53
	Slope	0.04		
116D2:				
Churchtown----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
116E2:				
Churchtown----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
126B:				
Barremills----------	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.84	Seepage	0.53
			Slope	0.08
	Restricted permeability	0.46		
132B2:				
Brinkman------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
	Depth to saturated zone	0.84		

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
132C2:				
Brinkman	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	0.84	Seepage	0.53
	Slope	0.04		
133B2:				
Valton	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
133C2:				
Valton	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
133D2:				
Valton	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
134C2:				
Lamoille	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Slope	0.04		
134D2:				
Lamoille	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
163E2:				
Elbaville	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
	Depth to bedrock	0.01		
202C2:				
Lambeau	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	1.00
	Restricted permeability	0.46		
	Depth to bedrock	0.09		
	Slope	0.04		

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
202D2:				
Lambeau-------------	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Slope	1.00		
	Restricted permeability	0.46		
	Depth to bedrock	0.09		
213D2:				
Hixton--------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	1.00
213E2:				
Hixton--------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	1.00
224B:				
Elevasil------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Seepage	1.00	Seepage	1.00
			Slope	0.32
224C2:				
Elevasil------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Seepage	1.00	Seepage	1.00
	Slope	0.04	Slope	1.00
224D2:				
Elevasil------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
233C:				
Boone---------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	1.00
	Slope	0.37		
253C2:				
Greenridge----------	Very limited		Very limited	
	Seepage	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
	Depth to bedrock	0.01		

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
253D2:				
Greenridge	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		
	Depth to bedrock	0.01		
254C2:				
Norden	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.04	Slope	1.00
			Seepage	1.00
254D2:				
Norden	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	1.00
254E2:				
Norden	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	1.00
296B:				
Ludington	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	0.75
	Seepage	1.00	Slope	0.32
312B2:				
Festina	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.32
318A:				
Bearpen	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Restricted permeability	0.46	Seepage	0.53
			Flooding	0.40
	Flooding	0.40		
326B2:				
Medary	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.28
			Slope	0.08
	Depth to saturated zone	1.00		

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
326F:				
Medary	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.28
	Slope	1.00		
336A:				
Toddville	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
	Depth to saturated zone	0.99		
	Restricted permeability	0.46		
403A:				
Dakota	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
	Restricted permeability	0.72		
413A:				
Rasset	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
424B:				
Merit	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.08
424D2:				
Merit	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		
424F:				
Merit	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		
433B:				
Forkhorn	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.32

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
434B:				
Bilson	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.08
434C2:				
Bilson	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	1.00
	Slope	0.04		
446A:				
Merimod	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
	Depth to saturated zone	0.99		
	Restricted permeability	0.46		
456A:				
Bilmod	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
	Depth to saturated zone	0.99		
458A:				
Hoop	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
483B2:				
Brice	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.32
501A:				
Finchford	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
502B2:				
Chelsea	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.32

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
502C2:				
Chelsea	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	1.00
	Slope	0.37		
511B:				
Plainfield	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.32
511C:				
Plainfield	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	1.00
	Slope	0.37		
511F:				
Plainfield	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
551A:				
Impact	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
556A:				
Mindoro	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	0.71
	Depth to saturated zone	0.99		
561B:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.32
561C:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	1.00
	Slope	0.37		
561F:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
562B:				
Gosil	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.08
562C:				
Gosil	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	1.00
	Slope	0.04		
566A:				
Tint	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	0.71
	Depth to saturated zone	0.99		
568A:				
Majik	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
569A:				
Newlang	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Content of organic matter	1.00
576B:				
Tintson	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Slope	0.08
	Restricted permeability	0.46		
601C:				
Beavercreek	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage	1.00	Seepage	1.00
	Content of large stones	0.35	Slope	1.00
			Content of large stones	0.30

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
606A:				
Huntsville----------	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
	Restricted permeability	0.46	Seepage	0.53
			Flooding	0.40
	Flooding	0.40		
608A:				
Lawson-------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
609A:				
Otter---------------	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
625A:				
Arenzville----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
	Restricted permeability	0.46	Seepage	0.53
626A:				
Arenzville----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
	Restricted permeability	0.46	Seepage	0.53
628A:				
Orion---------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
629A:				
Ettrick-------------	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Restricted permeability	1.00	Flooding	1.00
			Depth to saturated zone	1.00
	Ponding	1.00		
	Depth to saturated zone	1.00	Seepage	0.53

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
656A:				
Scotah	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage	1.00	Seepage	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
666A:				
Absco	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	0.71
	Depth to saturated zone	0.99		
676A:				
Kickapoo	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Seepage	1.00
	Restricted permeability	0.46	Depth to saturated zone	0.71
739A:				
Root	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
	Content of large stones	0.02		
743C2:				
Council	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
	Slope	0.04	Seepage	0.53
743D2:				
Council	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
743E2:				
Council	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
1125F:				
Dorerton	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.72	Seepage	1.00
	Depth to bedrock	0.38	Depth to hard bedrock	0.01
	Content of large stones	0.03		

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
1125F:				
Elbaville	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Filtering capacity	1.00	Seepage	1.00
	Slope	1.00		
	Seepage	1.00		
	Depth to bedrock	0.01		
1145F:				
Gaphill	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
	Depth to bedrock	0.25		
Rockbluff	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
	Depth to bedrock	0.25		
1155F:				
Brodale	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Content of large stones	0.83	Content of large stones	1.00
	Depth to bedrock	0.25		
Bellechester	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00	Depth to soft bedrock	0.08
	Depth to bedrock	0.52		
Rock outcrop	Not rated		Not rated	
1233F:				
Boone	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
1658A:				
Algansee	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
Kalmarville	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
1743F:				
Council	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
	Restricted permeability	0.46		
Elevasil	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
Norden	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
2002:				
Udorthents, earthen dams	Not rated		Not rated	
2003A:				
Riverwash	Not rated		Not rated	
2013:				
Pits, gravel	Not rated		Not rated	
2014:				
Pits, quarry, hard bedrock	Not rated		Not rated	
2020:				
Urban land, valley trains	Not rated		Not rated	

Table 19a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2030:				
Udorthents, cut or fill	Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated	
2040:				
Udipsamments, dredge material	Not rated		Not rated	
2050:				
Landfill	Not rated		Not rated	
M-W:				
Miscellaneous water	Not rated		Not rated	
W:				
Water	Not rated		Not rated	

Table 19b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:						
Palms	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Seepage	1.00	Content of organic matter	1.00
					Seepage	0.16
Houghton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Seepage	1.00	Content of organic matter	1.00
	Seepage	1.00			Seepage	0.16
21A:						
Palms	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Content of organic matter	1.00	Seepage	1.00	Seepage	0.16
30A:						
Adder	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00				
110D3:						
Timula	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
110E2:						
Timula	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
114B2:						
Mt. Carroll	Not limited		Not limited		Not limited	
115C2:						
Seaton	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
115D2:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115E2:						
Seaton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
116C2:						
Churchtown	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
116D2:						
Churchtown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
116E2:						
Churchtown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
126B:						
Barremills	Not limited		Not limited		Not limited	
132B2:						
Brinkman	Not limited		Not limited		Not limited	
132C2:						
Brinkman	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
133B2:						
Valton	Very limited		Not limited		Very limited	
	Too clayey	1.00			Too clayey	1.00
133C2:						
Valton	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.04	Too clayey	1.00
	Slope	0.04			Slope	0.04
133D2:						
Valton	Very limited		Very limited		Very limited	
	Too clayey	1.00	Slope	1.00	Too clayey	1.00
	Slope	1.00			Slope	1.00
134C2:						
Lamoille	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Content of large stones	0.36
	Content of large stones	0.36	Slope	0.04	Seepage	0.22
	Slope	0.04			Slope	0.04
134D2:						
Lamoille	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Content of large stones	0.36
	Content of large stones	0.36			Seepage	0.22
163E2:						
Elbaville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
	Seepage	1.00			Content of large stones	0.01
	Content of large stones	0.01				

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
202C2:						
Lambeau-------------	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Slope	0.04	Slope	0.04
	Seepage	1.00				
	Slope	0.04				
202D2:						
Lambeau-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00				
	Slope	1.00				
213D2:						
Hixton--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
			Slope	1.00	Seepage	0.22
213E2:						
Hixton--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Seepage	1.00	Slope	1.00
			Depth to bedrock	1.00	Seepage	0.22
224B:						
Elevasil------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Seepage	0.22
224C2:						
Elevasil------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Seepage	0.22
	Slope	0.04	Slope	0.04	Slope	0.04
224D2:						
Elevasil------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Seepage	1.00	Slope	1.00	Seepage	0.22
233C:						
Boone---------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.37	Seepage	1.00
	Slope	0.37			Slope	0.37
253C2:						
Greenridge----------	Very limited		Not limited		Not limited	
	Depth to bedrock	1.00				
	Seepage	1.00				
253D2:						
Greenridge----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Slope	1.00	Slope	1.00
	Slope	1.00				
	Seepage	1.00				

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
254C2:						
Norden--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	0.04	Seepage	1.00	Seepage	0.21
			Slope	0.04	Slope	0.04
254D2:						
Norden--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
			Seepage	1.00	Seepage	0.21
254E2:						
Norden--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
			Seepage	1.00	Seepage	0.21
296B:						
Ludington-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Too sandy	1.00
	Too sandy	1.00	Depth to saturated zone	0.75	Seepage	1.00
	Depth to saturated zone	0.99			Depth to saturated zone	0.86
312B2:						
Festina-------------	Not limited		Not limited		Not limited	
318A:						
Bearpen-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Flooding	0.40	Flooding	0.40		
326B2:						
Medary--------------	Very limited		Not limited		Very limited	
	Too clayey	1.00			Too clayey	1.00
	Depth to saturated zone	0.47			Hard to compact	1.00
					Depth to saturated zone	0.11
326F:						
Medary--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
	Depth to saturated zone	0.47			Hard to compact	1.00
					Depth to saturated zone	0.11
336A:						
Toddville-----------	Very limited		Not limited		Not limited	
	Seepage	1.00				
403A:						
Dakota--------------	Very limited		Very limited		Not limited	
	Seepage	1.00	Seepage	1.00		

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
413A:						
Rasset	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
424B:						
Merit	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Seepage	0.22
424D2:						
Merit	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Seepage	0.22
424F:						
Merit	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Seepage	0.22
433B:						
Forkhorn	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.04
434B:						
Bilson	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Seepage	0.22
434C2:						
Bilson	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Seepage	0.22
	Slope	0.04	Slope	0.04	Slope	0.04
446A:						
Merimod	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
456A:						
Bilmod	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
458A:						
Hoop	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00			Depth to saturated zone	0.99
483B2:						
Brice	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
501A:						
Finchford	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.04
502B2:						
Chelsea	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
502C2:						
Chelsea	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.37	Seepage	1.00
	Slope	0.37			Slope	0.37
511B:						
Plainfield	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.01
511C:						
Plainfield	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.37	Seepage	1.00
	Slope	0.37			Slope	0.37
					Gravel content	0.01
511F:						
Plainfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.01
551A:						
Impact	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
556A:						
Mindoro	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
					Seepage	1.00
	Seepage	1.00	Seepage	1.00		
	Too sandy	1.00				
561B:						
Tarr	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
561C:						
Tarr	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.37	Seepage	1.00
	Slope	0.37			Slope	0.37

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
561F:						
Tarr	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
562B:						
Gosil	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
562C:						
Gosil	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.04	Seepage	1.00
	Slope	0.04			Slope	0.04
566A:						
Tint	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00				
568A:						
Majik	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00			Depth to saturated zone	0.99
569A:						
Newlang	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00				
576B:						
Tintson	Very limited		Very limited		Very limited	
	Too sandy	1.00	Seepage	1.00	Too sandy	1.00
	Depth to saturated zone	0.47			Seepage	1.00
					Depth to saturated zone	0.11
601C:						
Beavercreek	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Content of large stones	0.59
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Content of large stones	0.59				
606A:						
Huntsville	Very limited		Very limited		Not limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
	Flooding	0.40	Flooding	0.40		

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
608A:						
Lawson----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
609A:						
Otter----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
625A:						
Arenzville----------	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
626A:						
Arenzville----------	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
628A:						
Orion----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
629A:						
Ettrick----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00		
656A:						
Scotah----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Too sandy	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Seepage	1.00	Gravel content	0.02
	Too sandy	1.00				
666A:						
Absco----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Too sandy	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Seepage	1.00		
	Too sandy	1.00				

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
676A:						
Kickapoo------------	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Seepage	0.22
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
			Seepage	1.00		
739A:						
Root----------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Seepage	1.00	Content of large stones	0.41
	Content of large stones	0.41			Gravel content	0.01
743C2:						
Council-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
743D2:						
Council-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
743E2:						
Council-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
1125F:						
Dorerton------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50	Depth to bedrock	0.01	Too sandy	0.50
	Content of large stones	0.29			Content of large stones	0.29
					Depth to bedrock	0.01
Elbaville-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
	Seepage	1.00			Content of large stones	0.01
	Content of large stones	0.01				
1145F:						
Gaphill-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Seepage	0.22
	Seepage	1.00				
Rockbluff-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
	Seepage	1.00			Seepage	1.00
	Too sandy	1.00				

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1155F:						
Brodale	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Carbonate content	1.00
	Seepage	1.00			Content of large stones	0.38
	Content of large stones	0.38			Seepage	0.22
Bellechester	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Too sandy	1.00
	Seepage	1.00	Depth to bedrock	0.08	Seepage	1.00
	Too sandy	1.00			Depth to bedrock	0.08
Rock outcrop	Not rated		Not rated		Not rated	
1233F:						
Boone	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Seepage	1.00	Slope	1.00
	Seepage	1.00	Depth to bedrock	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
Tarr	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
1658A:						
Algansee	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Too sandy	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Seepage	1.00	Depth to saturated zone	0.99
	Too sandy	1.00				
Kalmarville	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Seepage	0.22
	Seepage	1.00	Seepage	1.00		
1743F:						
Council	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Elevasil	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Seepage	1.00	Slope	1.00
	Seepage	1.00	Depth to bedrock	1.00	Seepage	0.22
Norden	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
			Seepage	1.00	Seepage	0.21

Table 19b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
2002:						
Udorthents, earthen dams	Not rated		Not rated		Not rated	
2003A:						
Riverwash	Not rated		Not rated		Not rated	
2013:						
Pits, gravel	Not rated		Not rated		Not rated	
2014:						
Pits, quarry, hard bedrock	Not rated		Not rated		Not rated	
2020:						
Urban land, valley trains	Not rated		Not rated		Not rated	
2030:						
Udorthents, cut or fill	Not rated		Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated		Not rated	
2040:						
Udipsamments, dredge material	Not rated		Not rated		Not rated	
2050:						
Landfill	Not rated		Not rated		Not rated	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	

Table 20a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
20A:				
Palms	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Houghton	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
21A:				
Palms	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
30A:				
Adder	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.72
110D3:				
Timula	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
110E2:				
Timula	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
114B2:				
Mt. Carroll	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
115C2:				
Seaton	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
115D2:				
Seaton	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
115E2:				
Seaton	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
116C2:				
Churchtown----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
116D2:				
Churchtown----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
116E2:				
Churchtown----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
126B:				
Barremills----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
132B2:				
Brinkman------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
132C2:				
Brinkman------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
133B2:				
Valton--------------	Fair		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.01	Thickest layer	0.00
133C2:				
Valton--------------	Fair		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.01	Thickest layer	0.00
133D2:				
Valton--------------	Fair		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.01	Thickest layer	0.00
134C2:				
Lamoille------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
134D2:				
Lamoille------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
163E2:				
Elbaville-----------	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
202C2:				
Lambeau-------------	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.68
202D2:				
Lambeau-------------	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.68
213D2:				
Hixton--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
213E2:				
Hixton--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
224B:				
Elevasil------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.04
	Thickest layer	0.00	Thickest layer	0.04
224C2:				
Elevasil------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.04
	Thickest layer	0.00	Thickest layer	0.04
224D2:				
Elevasil------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.04
	Thickest layer	0.00	Thickest layer	0.04
233C:				
Boone---------------	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.04
	Bottom layer	0.00	Bottom layer	0.86
253C2:				
Greenridge----------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
253D2:				
Greenridge----------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
254C2:				
Norden--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
254D2:				
Norden--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
254E2:				
Norden--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
296B:				
Ludington-----------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.09
	Thickest layer	0.00	Bottom layer	0.64
312B2:				
Festina-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
318A:				
Bearpen-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
326B2:				
Medary--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
326F:				
Medary--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
336A:				
Toddville-----------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.12
403A:				
Dakota--------------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.16	Bottom layer	0.54
413A:				
Rasset--------------	Fair		Fair	
	Bottom layer	0.16	Thickest layer	0.19
	Thickest layer	0.16	Bottom layer	0.50
424B:				
Merit---------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.12
424D2:				
Merit---------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.12
424F:				
Merit---------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.12

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
433B:				
Forkhorn------------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.04
	Bottom layer	0.16	Bottom layer	0.46
434B:				
Bilson--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.04
	Thickest layer	0.00	Bottom layer	0.12
434C2:				
Bilson--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.04
	Thickest layer	0.00	Bottom layer	0.12
446A:				
Merimod-------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.12
	Thickest layer	0.00	Thickest layer	0.30
456A:				
Bilmod--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.04
	Thickest layer	0.00	Bottom layer	0.12
458A:				
Hoop----------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.04
	Thickest layer	0.00	Bottom layer	0.68
483B2:				
Brice---------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.11
	Thickest layer	0.00	Thickest layer	0.14
501A:				
Finchford-----------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.21
	Bottom layer	0.16	Bottom layer	0.50
502B2:				
Chelsea-------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.11
	Thickest layer	0.00	Thickest layer	0.12
502C2:				
Chelsea-------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.11
	Thickest layer	0.00	Thickest layer	0.12
511B:				
Plainfield----------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.72
	Bottom layer	0.16	Bottom layer	0.86
511C:				
Plainfield----------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.72
	Bottom layer	0.16	Bottom layer	0.86

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
511F:				
Plainfield	Fair		Fair	
	Thickest layer	0.00	Bottom layer	0.58
	Bottom layer	0.16	Thickest layer	0.72
551A:				
Impact	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.44
	Thickest layer	0.00	Bottom layer	0.91
556A:				
Mindoro	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.59
	Thickest layer	0.00	Bottom layer	0.91
561B:				
Tarr	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.59
	Thickest layer	0.00	Bottom layer	0.91
561C:				
Tarr	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.59
	Thickest layer	0.00	Bottom layer	0.91
561F:				
Tarr	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.59
	Thickest layer	0.00	Bottom layer	0.91
562B:				
Gosil	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.10
	Thickest layer	0.00	Bottom layer	0.36
562C:				
Gosil	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.10
	Thickest layer	0.00	Bottom layer	0.36
566A:				
Tint	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.51
	Thickest layer	0.00	Bottom layer	0.82
568A:				
Majik	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.02
	Thickest layer	0.00	Bottom layer	0.32
569A:				
Newlang	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.34
	Thickest layer	0.00	Bottom layer	0.72
576B:				
Tintson	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.82

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
601C:				
Beavercreek----------	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
606A:				
Huntsville----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
608A:				
Lawson--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
609A:				
Otter---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
625A:				
Arenzville----------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
626A:				
Arenzville----------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
628A:				
Orion---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
629A:				
Ettrick-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
656A:				
Scotah--------------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.13
	Bottom layer	0.16	Bottom layer	0.76
666A:				
Absco---------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.50
	Thickest layer	0.00	Thickest layer	0.64
676A:				
Kickapoo------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
739A:				
Root----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
743C2:				
Council	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
743D2:				
Council	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
743E2:				
Council	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1125F:				
Dorerton	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Elbaville	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
1145F:				
Gaphill	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.04
	Bottom layer	0.00	Bottom layer	0.75
Rockbluff	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.51
	Thickest layer	0.00	Bottom layer	0.86
1155F:				
Brodale	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Bellechester	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.26
	Thickest layer	0.00	Bottom layer	0.34
Rock outcrop	Not rated		Not rated	
1233F:				
Boone	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.21
	Bottom layer	0.00	Bottom layer	0.86
Tarr	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.59
	Thickest layer	0.00	Bottom layer	0.91
1658A:				
Algansee	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.07
	Bottom layer	0.01	Bottom layer	0.10
Kalmarville	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.17

Table 20a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
1743F:				
Council	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Elevasil	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.04
	Thickest layer	0.00	Thickest layer	0.04
Norden	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2002:				
Udorthents, earthen dams	Not rated		Not rated	
2003A:				
Riverwash	Not rated		Not rated	
2013:				
Pits, gravel	Not rated		Not rated	
2014:				
Pits, quarry, hard bedrock	Not rated		Not rated	
2020:				
Urban land, valley trains	Not rated		Not rated	
2030:				
Udorthents, cut or fill	Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated	
2040:				
Udipsamments, dredge material	Not rated		Not rated	
2050:				
Landfill	Not rated		Not rated	
M-W:				
Miscellaneous water	Not rated		Not rated	
W:				
Water	Not rated		Not rated	

Table 20b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:						
Palms	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.97			Content of organic matter	0.00
Houghton	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.97			Content of organic matter	0.00
21A:						
Palms	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.97			Content of organic matter	0.00
30A:						
Adder	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.50			Content of organic matter	0.00
	Too acid	0.97				
110D3:						
Timula	Fair		Fair		Poor	
	Low content of organic matter	0.12	Slope	0.98	Slope	0.00
	Water erosion	0.37				
	Carbonate content	0.92				
110E2:						
Timula	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
	Water erosion	0.37				
	Carbonate content	0.92				
114B2:						
Mt. Carroll	Fair		Poor		Good	
	Low content of organic matter	0.50	Low strength	0.00		
			Shrink-swell	0.98		
	Water erosion	0.90				
	Too acid	0.97				
115C2:						
Seaton	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.96
			Shrink-swell	0.94		
	Water erosion	0.68				
	Too acid	0.97				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
115D2:						
Seaton--------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
			Shrink-swell	0.94		
	Water erosion	0.68	Slope	0.98		
	Too acid	0.97				
115E2:						
Seaton--------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
			Low strength	0.00		
	Water erosion	0.68	Shrink-swell	0.94		
	Too acid	0.97				
116C2:						
Churchtown----------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.96
	Water erosion	0.90				
	Too acid	0.97				
116D2:						
Churchtown----------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
			Slope	0.98		
	Water erosion	0.90				
	Too acid	0.97				
116E2:						
Churchtown----------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
			Low strength	0.00		
	Water erosion	0.90				
	Too acid	0.97				
126B:						
Barremills----------	Fair		Fair		Good	
	Low content of organic matter	0.50	Shrink-swell	0.99		
	Water erosion	0.90				
	Too acid	0.97				
132B2:						
Brinkman------------	Fair		Fair		Good	
	Low content of organic matter	0.50	Shrink-swell	0.87		
	Water erosion	0.90				
	Too acid	0.97				
132C2:						
Brinkman------------	Fair		Fair		Fair	
	Low content of organic matter	0.50	Shrink-swell	0.87	Slope	0.96
	Water erosion	0.90				
	Too acid	0.97				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
133B2:						
Valton	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.28	Too clayey	0.00
	Low content of organic matter	0.12			Rock fragments	0.12
	Too acid	0.68			Hard to reclaim (rock fragments)	0.68
	Water erosion	0.90				
133C2:						
Valton	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.28	Too clayey	0.00
	Low content of organic matter	0.12			Rock fragments	0.12
	Too acid	0.68			Hard to reclaim (rock fragments)	0.68
	Water erosion	0.90			Slope	0.96
133D2:						
Valton	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.28	Too clayey	0.00
	Low content of organic matter	0.12	Slope	0.98	Slope	0.00
					Rock fragments	0.12
	Too acid	0.68			Hard to reclaim (rock fragments)	0.68
	Water erosion	0.90				
134C2:						
Lamoille	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.96	Hard to reclaim (rock fragments)	0.00
	Low content of organic matter	0.12	Cobble content	0.99	Too clayey	0.00
	Too acid	0.74			Rock fragments	0.00
	Water erosion	0.90			Slope	0.96
	Stone content	0.95				
	Cobble content	0.95				
134D2:						
Lamoille	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.96	Hard to reclaim (rock fragments)	0.00
	Low content of organic matter	0.12	Slope	0.98		
			Cobble content	0.99	Too clayey	0.00
	Too acid	0.74			Slope	0.00
	Water erosion	0.90			Rock fragments	0.00
	Stone content	0.95				
	Cobble content	0.95				
163E2:						
Elbaville	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
					Hard to reclaim (rock fragments)	0.00
	Too clayey	0.50				
	Water erosion	0.90			Rock fragments	0.00
	Too acid	0.97			Too clayey	0.29
202C2:						
Lambeau	Fair		Fair		Fair	
	Low content of organic matter	0.12	Shrink-swell	0.99	Slope	0.96
	Water erosion	0.68				
	Too acid	0.84				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
202D2:						
Lambeau	Fair		Fair		Poor	
	Low content of organic matter	0.12	Slope	0.98	Slope	0.00
	Water erosion	0.68	Shrink-swell	0.99		
	Too acid	0.84				
213D2:						
Hixton	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.58	Slope	0.98	Depth to bedrock	0.58
	Too acid	0.68				
	Water erosion	0.90				
	Droughty	0.98				
213E2:						
Hixton	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.58	Slope	0.00	Depth to bedrock	0.58
	Too acid	0.68				
	Water erosion	0.90				
	Droughty	0.98				
224B:						
Elevasil	Fair		Poor		Fair	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Depth to bedrock	0.58
	Droughty	0.40				
	Depth to bedrock	0.58				
	Too acid	0.68				
224C2:						
Elevasil	Fair		Poor		Fair	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Depth to bedrock	0.58
					Slope	0.96
	Droughty	0.40				
	Depth to bedrock	0.58				
	Too acid	0.68				
224D2:						
Elevasil	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
			Slope	0.98	Depth to bedrock	0.58
	Droughty	0.40				
	Depth to bedrock	0.58				
	Too acid	0.68				
233C:						
Boone	Poor		Poor		Poor	
	Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
	Wind erosion	0.00			Depth to bedrock	0.58
	Droughty	0.00			Slope	0.63
	Low content of organic matter	0.12			Rock fragments	0.88
	Depth to bedrock	0.58				
	Too acid	0.68				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
253C2:						
Greenridge----------	Fair		Fair		Good	
	Low content of organic matter	0.12	Shrink-swell	0.95		
	Water erosion	0.68				
	Too acid	0.84				
253D2:						
Greenridge----------	Fair		Fair		Poor	
	Low content of organic matter	0.12	Shrink-swell	0.95	Slope	0.00
	Water erosion	0.68	Slope	0.98		
	Too acid	0.84				
254C2:						
Norden--------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Depth to bedrock	0.58
	Too acid	0.54			Slope	0.96
	Depth to bedrock	0.58				
	Water erosion	0.90				
	Droughty	0.99				
254D2:						
Norden--------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
	Too acid	0.54	Slope	0.98	Depth to bedrock	0.58
	Depth to bedrock	0.58				
	Water erosion	0.90				
	Droughty	0.99				
254E2:						
Norden--------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
	Too acid	0.54	Slope	0.00	Depth to bedrock	0.58
	Depth to bedrock	0.58				
	Water erosion	0.90				
	Droughty	0.99				
296B:						
Ludington-----------	Poor		Poor		Poor	
	Too sandy	0.00	Depth to bedrock	0.00	Too sandy	0.00
	Wind erosion	0.00	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Droughty	0.00			Depth to bedrock	0.58
	Low content of organic matter	0.12			Too acid	0.76
	Too acid	0.50			Rock fragments	0.97
	Depth to bedrock	0.58				
312B2:						
Festina-------------	Fair		Fair		Good	
	Low content of organic matter	0.12	Shrink-swell	0.89		
	Too acid	0.74				
	Water erosion	0.90				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
318A:						
Bearpen-------------	Fair		Poor		Fair	
	Low content of organic matter	0.50	Low strength	0.00	Depth to saturated zone	0.14
	Too acid	0.97	Depth to saturated zone	0.14		
326B2:						
Medary--------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Shrink-swell	0.17		
	Too acid	0.84				
	Water erosion	0.90				
326F:						
Medary--------------	Poor		Poor		Poor	
	Too clayey	0.00	Slope	0.00	Slope	0.00
	Low content of organic matter	0.12	Shrink-swell	0.17	Too clayey	0.00
	Too acid	0.84				
	Water erosion	0.99				
336A:						
Toddville-----------	Fair		Good		Good	
	Low content of organic matter	0.50				
	Too acid	0.97				
	Water erosion	0.99				
403A:						
Dakota--------------	Fair		Good		Fair	
	Too acid	0.84			Hard to reclaim (rock fragments)	0.32
	Low content of organic matter	0.88				
413A:						
Rasset--------------	Fair		Good		Fair	
	Too acid	0.84			Hard to reclaim (rock fragments)	0.32
	Low content of organic matter	0.88				
424B:						
Merit---------------	Fair		Good		Good	
	Low content of organic matter	0.12				
	Too acid	0.68				
	Water erosion	0.90				
424D2:						
Merit---------------	Fair		Fair		Poor	
	Low content of organic matter	0.12	Slope	0.98	Slope	0.00
	Too acid	0.68				
	Water erosion	0.90				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
424F:						
Merit---------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
	Too acid	0.68				
	Water erosion	0.90				
433B:						
Forkhorn------------	Fair		Good		Fair	
	Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.32
	Too acid	0.84			Rock fragments	0.97
	Droughty	0.99				
434B:						
Bilson--------------	Fair		Good		Good	
	Low content of organic matter	0.50				
	Too acid	0.68				
434C2:						
Bilson--------------	Fair		Good		Fair	
	Low content of organic matter	0.50			Slope	0.96
	Too acid	0.68				
446A:						
Merimod-------------	Fair		Good		Good	
	Low content of organic matter	0.12				
	Too acid	0.68				
	Water erosion	0.90				
456A:						
Bilmod--------------	Fair		Good		Good	
	Low content of organic matter	0.50				
	Too acid	0.68				
458A:						
Hoop----------------	Fair		Fair		Fair	
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Too acid	0.68				
	Droughty	0.96				
483B2:						
Brice---------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Low content of organic matter	0.12				
	Too acid	0.95				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
501A:						
Finchford-----------	Poor		Good		Fair	
	Wind erosion	0.00			Too sandy	0.02
	Too sandy	0.02			Hard to reclaim (rock fragments)	0.32
	Low content of organic matter	0.12				
	Droughty	0.91				
	Too acid	0.97				
502B2:						
Chelsea-------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Low content of organic matter	0.12				
	Too acid	0.84				
502C2:						
Chelsea-------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Slope	0.63
	Low content of organic matter	0.12				
	Too acid	0.84				
511B:						
Plainfield----------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Hard to reclaim (rock fragments)	0.32
	Low content of organic matter	0.12			Rock fragments	0.97
	Droughty	0.68				
	Too acid	0.84				
511C:						
Plainfield----------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Hard to reclaim (rock fragments)	0.32
	Low content of organic matter	0.12			Slope	0.63
	Droughty	0.68			Rock fragments	0.97
	Too acid	0.84				
511F:						
Plainfield----------	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Wind erosion	0.00			Too sandy	0.00
	Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.32
	Too acid	0.50			Rock fragments	0.97
	Droughty	0.91				
551A:						
Impact--------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Low content of organic matter	0.12				
	Droughty	0.65				
	Too acid	0.68				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
556A:						
Mindoro-------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Low content of organic matter	0.50				
	Droughty	0.79				
	Too acid	0.84				
561B:						
Tarr----------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Low content of organic matter	0.12				
	Droughty	0.24				
	Too acid	0.68				
561C:						
Tarr----------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Slope	0.63
	Low content of organic matter	0.12				
	Droughty	0.24				
	Too acid	0.68				
561F:						
Tarr----------------	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Wind erosion	0.00			Too sandy	0.00
	Low content of organic matter	0.12				
	Too acid	0.50				
	Droughty	0.76				
562B:						
Gosil---------------	Poor		Good		Fair	
	Wind erosion	0.00			Too sandy	0.02
	Too sandy	0.02				
	Low content of organic matter	0.12				
	Too acid	0.84				
	Droughty	0.87				
562C:						
Gosil---------------	Poor		Good		Fair	
	Wind erosion	0.00			Too sandy	0.02
	Too sandy	0.02			Slope	0.96
	Low content of organic matter	0.12				
	Too acid	0.84				
	Droughty	0.87				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
566A:						
Tint----------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Low content of organic matter	0.12				
	Droughty	0.26				
	Too acid	0.68				
568A:						
Majik---------------	Poor		Fair		Fair	
	Wind erosion	0.00	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Low content of organic matter	0.12			Too sandy	0.36
	Too sandy	0.36			Too acid	0.98
	Droughty	0.43				
	Too acid	0.54				
569A:						
Newlang-------------	Poor		Poor		Poor	
	Too sandy	0.00	Depth to saturated zone	0.00	Too sandy	0.00
	Wind erosion	0.00			Depth to saturated zone	0.00
	Low content of organic matter	0.12				
	Too acid	0.50				
576B:						
Tintson-------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Too acid	0.98
	Low content of organic matter	0.12				
	Too acid	0.54				
	Droughty	0.99				
601C:						
Beavercreek---------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Cobble content	0.00	Hard to reclaim (rock fragments)	0.00
	Cobble content	0.41			Rock fragments	0.00
	Too sandy	0.99			Too sandy	0.99
606A:						
Huntsville----------	Fair		Fair		Good	
	Water erosion	0.99	Shrink-swell	0.96		
608A:						
Lawson--------------	Fair		Fair		Fair	
	Water erosion	0.99	Depth to saturated zone	0.14	Depth to saturated zone	0.14
			Shrink-swell	0.99		
609A:						
Otter---------------	Fair		Poor		Poor	
	Water erosion	0.99	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Shrink-swell	0.98		

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
625A:						
Arenzville----------	Fair		Good		Good	
	Low content of organic matter	0.12				
	Water erosion	0.99				
626A:						
Arenzville----------	Fair		Good		Good	
	Low content of organic matter	0.12				
	Water erosion	0.99				
628A:						
Orion---------------	Fair		Fair		Fair	
	Water erosion	0.99	Depth to saturated zone	0.14	Depth to saturated zone	0.14
629A:						
Ettrick-------------	Fair		Poor		Poor	
	Low content of organic matter	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
656A:						
Scotah--------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Hard to reclaim (rock fragments)	0.32
	Low content of organic matter	0.12				
	Droughty	0.44				
666A:						
Absco---------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Droughty	0.08				
	Low content of organic matter	0.12				
	Too acid	0.88				
676A:						
Kickapoo------------	Fair		Good		Fair	
	Too acid	0.97			Rock fragments	0.12
739A:						
Root----------------	Fair		Poor		Poor	
	Low content of organic matter	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Cobble content	0.93	Cobble content	0.69	Hard to reclaim (rock fragments)	0.00
	Stone content	0.95			Rock fragments	0.00
743C2:						
Council-------------	Fair		Good		Fair	
	Low content of organic matter	0.12			Slope	0.96
					Rock fragments	0.97
	Too acid	0.68				
	Water erosion	0.99				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
743D2:						
Council	Fair		Fair		Poor	
	Low content of organic matter	0.12	Slope	0.98	Slope	0.00
					Rock fragments	0.97
	Too acid	0.68				
	Water erosion	0.99				
743E2:						
Council	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
					Rock fragments	0.97
	Too acid	0.68				
	Water erosion	0.99				
1125F:						
Dorerton	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
			Cobble content	0.71	Hard to reclaim (rock fragments)	0.00
	Too acid	0.84	Depth to bedrock	0.99		
	Stone content	0.92	Stone content	0.99		
	Droughty	0.96				
	Cobble content	0.98				
Elbaville	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
					Hard to reclaim (rock fragments)	0.00
	Too acid	0.50				
	Too clayey	0.50			Rock fragments	0.00
					Too clayey	0.29
1145F:						
Gaphill	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
	Too acid	0.20				
Rockbluff	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Wind erosion	0.00			Too sandy	0.00
	Low content of organic matter	0.12			Rock fragments	0.88
	Too acid	0.50				
	Droughty	0.59				
1155F:						
Brodale	Poor		Poor		Poor	
	Carbonate content	0.00	Slope	0.00	Slope	0.00
	Droughty	0.10	Cobble content	0.03	Carbonate content	0.00
	Low content of organic matter	0.50	Stone content	0.50	Rock fragments	0.00
					Hard to reclaim (rock fragments)	0.00
	Stone content	0.78				
	Cobble content	0.98				
Bellechester	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Wind erosion	0.00	Depth to bedrock	0.92	Too sandy	0.00
	Droughty	0.00			Rock fragments	0.97
	Low content of organic matter	0.50				

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1155F:						
Rock outcrop--------	Not rated		Not rated		Not rated	
1233F:						
Boone---------------	Poor		Poor		Poor	
	Too sandy	0.00	Depth to bedrock	0.00	Slope	0.00
	Wind erosion	0.00	Slope	0.00	Too sandy	0.00
	Droughty	0.00			Depth to bedrock	0.58
	Low content of organic matter	0.12			Rock fragments	0.88
	Too acid	0.50				
	Depth to bedrock	0.58				
Tarr----------------	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Wind erosion	0.00			Too sandy	0.00
	Low content of organic matter	0.12				
	Too acid	0.50				
	Droughty	0.76				
1658A:						
Algansee------------	Poor		Fair		Poor	
	Too sandy	0.00	Depth to saturated zone	0.14	Too sandy	0.00
	Low content of organic matter	0.12			Depth to saturated zone	0.14
	Droughty	0.74			Hard to reclaim (rock fragments)	0.92
Kalmarville---------	Good		Poor		Poor	
			Depth to saturated zone	0.00	Depth to saturated zone	0.00
1743F:						
Council-------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
					Rock fragments	0.97
	Too acid	0.20				
Elevasil------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
			Slope	0.00	Depth to bedrock	0.58
	Too acid	0.50				
	Depth to bedrock	0.58				
	Droughty	0.75				
Norden--------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
			Slope	0.00	Depth to bedrock	0.58
	Too acid	0.50				
	Depth to bedrock	0.58				
	Water erosion	0.99				
2002:						
Udorthents, earthen dams---------------	Not rated		Not rated		Not rated	
2003A:						
Riverwash-----------	Not rated		Not rated		Not rated	

Table 20b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2013:						
Pits, gravel	Not rated		Not rated		Not rated	
2014:						
Pits, quarry, hard bedrock	Not rated		Not rated		Not rated	
2020:						
Urban land, valley trains	Not rated		Not rated		Not rated	
2030:						
Udorthents, cut or fill	Not rated		Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated		Not rated	
2040:						
Udipsamments, dredge material	Not rated		Not rated		Not rated	
2050:						
Landfill	Not rated		Not rated		Not rated	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	

Table 21.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:						
Palms	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Content of organic matter	1.00	Cutbanks cave	0.10
			Ponding	1.00		
			Depth to saturated zone	1.00		
Houghton	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Content of organic matter	1.00	Cutbanks cave	0.10
			Ponding	1.00		
			Depth to saturated zone	1.00		
			Piping	1.00		
21A:						
Palms	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Content of organic matter	1.00	Cutbanks cave	0.10
			Ponding	1.00		
			Depth to saturated zone	1.00		
30A:						
Adder	Very limited		Very limited		Very limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00		
			Seepage	0.72		
110D3:						
Timula	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	No ground water	1.00
	Slope	0.04				
110E2:						
Timula	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	No ground water	1.00
	Slope	0.28				
114B2:						
Mt. Carroll	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.95	No ground water	1.00
115C2:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.93	No ground water	1.00
115D2:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.93	No ground water	1.00
	Slope	0.04				

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115E2:						
Seaton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.93	No ground water	1.00
	Slope	0.28				
116C2:						
Churchtown	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.98	No ground water	1.00
116D2:						
Churchtown	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.98	No ground water	1.00
	Slope	0.04				
116E2:						
Churchtown	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.98	No ground water	1.00
	Slope	0.28				
126B:						
Barremills	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.97	No ground water	1.00
132B2:						
Brinkman	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.38	No ground water	1.00
132C2:						
Brinkman	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.38	No ground water	1.00
133B2:						
Valton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Hard to pack	0.69	No ground water	1.00
133C2:						
Valton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Hard to pack	0.69	No ground water	1.00
133D2:						
Valton	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Hard to pack	0.69	No ground water	1.00
	Slope	0.04				
134C2:						
Lamoille	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.19	No ground water	1.00
134D2:						
Lamoille	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.19	No ground water	1.00
	Slope	0.04				
163E2:						
Elbaville	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Slope	0.28	Seepage	0.02		

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
202C2:						
Lambeau-------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
			Seepage	0.68		
202D2:						
Lambeau-------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Slope	0.04	Seepage	0.68		
213D2:						
Hixton--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Depth to bedrock	0.11	Thin layer	0.85		
	Slope	0.04				
213E2:						
Hixton--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Slope	0.28	Thin layer	0.85		
	Depth to bedrock	0.11				
224B:						
Elevasil------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.85	No ground water	1.00
	Depth to bedrock	0.11	Seepage	0.04		
224C2:						
Elevasil------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.85	No ground water	1.00
	Depth to bedrock	0.11	Seepage	0.04		
224D2:						
Elevasil------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.85	No ground water	1.00
	Depth to bedrock	0.11	Seepage	0.04		
	Slope	0.04				
233C:						
Boone---------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.89	No ground water	1.00
	Depth to bedrock	0.11	Thin layer	0.85		
	Slope	0.01				
253C2:						
Greenridge----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.95	No ground water	1.00
253D2:						
Greenridge----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.95	No ground water	1.00
	Slope	0.04				
254C2:						
Norden--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Depth to bedrock	0.11	Thin layer	0.85		

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
254D2:						
Norden	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Depth to bedrock	0.11	Thin layer	0.85		
	Slope	0.04				
254E2:						
Norden	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Slope	0.28	Thin layer	0.85		
	Depth to bedrock	0.11				
296B:						
Ludington	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	0.99	No ground water	1.00
	Depth to bedrock	0.11				
			Thin layer	0.85		
			Seepage	0.64		
312B2:						
Festina	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.66	No ground water	1.00
318A:						
Bearpen	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	No ground water	1.00
			Piping	0.99		
326B2:						
Medary	Not limited		Somewhat limited		Very limited	
			Depth to saturated zone	0.46	No ground water	1.00
326F:						
Medary	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.50	Depth to saturated zone	0.46	No ground water	1.00
336A:						
Toddville	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
			Seepage	0.12		
403A:						
Dakota	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.54	No ground water	1.00
413A:						
Rasset	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.50	No ground water	1.00
424B:						
Merit	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
424D2:						
Merit	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
	Slope	0.04				

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
424F:						
Merit---------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
	Slope	0.64				
433B:						
Forkhorn------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.46	No ground water	1.00
434B:						
Bilson--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
434C2:						
Bilson--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
446A:						
Merimod-------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.36	No ground water	1.00
456A:						
Bilmod--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
458A:						
Hoop----------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.68		
483B2:						
Brice---------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.14	No ground water	1.00
501A:						
Finchford-----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.50	No ground water	1.00
502B2:						
Chelsea-------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
502C2:						
Chelsea-------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.12	No ground water	1.00
	Slope	0.01				
511B:						
Plainfield----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.92	No ground water	1.00
511C:						
Plainfield----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.92	No ground water	1.00
	Slope	0.01				
511F:						
Plainfield----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.72	No ground water	1.00
	Slope	0.82				

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
551A:						
Impact	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.91	No ground water	1.00
556A:						
Mindoro	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.91	Cutbanks cave	1.00
					Depth to water	0.81
561B:						
Tarr	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.91	No ground water	1.00
561C:						
Tarr	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.91	No ground water	1.00
	Slope	0.01				
561F:						
Tarr	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.91	No ground water	1.00
	Slope	0.50				
562B:						
Gosil	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.36	No ground water	1.00
562C:						
Gosil	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.36	No ground water	1.00
566A:						
Tint	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.82	Cutbanks cave	1.00
					Depth to water	0.81
568A:						
Majik	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.32		
569A:						
Newlang	Very limited		Very limited		Very limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00		
			Seepage	0.72		
576B:						
Tintson	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.82	No ground water	1.00
			Depth to saturated zone	0.46		
601C:						
Beavercreek	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Content of large stones	0.35	No ground water	1.00
			Seepage	0.08		

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
606A:						
Huntsville----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Piping	0.50	Depth to water	0.81
					Slow refill	0.28
					Cutbanks cave	0.10
608A:						
Lawson--------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.72		
609A:						
Otter---------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.69		
625A:						
Arenzville----------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Cutbanks cave	1.00
					Depth to water	0.81
					Slow refill	0.28
626A:						
Arenzville----------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Cutbanks cave	1.00
					Depth to water	0.81
					Slow refill	0.28
628A:						
Orion---------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Cutbanks cave	1.00
					Slow refill	0.28
			Piping	1.00		
629A:						
Ettrick-------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.04	Ponding	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.09		
656A:						
Scotah--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.76	Cutbanks cave	1.00
					Depth to water	0.81
666A:						
Absco---------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.64	Cutbanks cave	1.00
					Depth to water	0.81
676A:						
Kickapoo------------	Very limited		Not limited		Very limited	
	Seepage	1.00			Cutbanks cave	1.00
					Depth to water	0.81
					Slow refill	0.28

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
739A:						
Root	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Content of large stones	0.02	Content of large stones	0.02
743C2:						
Council	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	No ground water	1.00
743D2:						
Council	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	No ground water	1.00
	Slope	0.04				
743E2:						
Council	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	No ground water	1.00
	Slope	0.28				
1125F:						
Dorerton	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Content of large stones	0.03	No ground water	1.00
	Slope	0.97	Thin layer	0.01		
	Depth to bedrock	0.01				
Elbaville	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Slope	0.82	Seepage	0.02		
1145F:						
Gaphill	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.75	No ground water	1.00
	Slope	0.97				
Rockbluff	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.89	No ground water	1.00
	Slope	0.97				
1155F:						
Brodale	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Content of large stones	0.83	No ground water	1.00
	Seepage	1.00				
Bellechester	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.64	No ground water	1.00
	Slope	1.00	Thin layer	0.02		
	Depth to bedrock	0.01				
Rock outcrop	Not rated		Not rated		Not rated	
1233F:						
Boone	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.89	No ground water	1.00
	Slope	0.64	Thin layer	0.85		
	Depth to bedrock	0.11				

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1233F:						
Tarr----------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.91	No ground water	1.00
	Slope	0.50				
1658A:						
Algansee------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
Kalmarville---------	Very limited		Very limited		Very limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00		
			Seepage	0.17		
1743F:						
Council-------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	No ground water	1.00
	Slope	0.72				
Elevasil------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.85	No ground water	1.00
	Slope	0.97	Seepage	0.04		
	Depth to bedrock	0.11				
Norden--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	No ground water	1.00
	Slope	0.97	Thin layer	0.85		
	Depth to bedrock	0.11				
2002:						
Udorthents, earthen dams---------------	Not rated		Not rated		Not rated	
2003A:						
Riverwash-----------	Not rated		Not rated		Not rated	
2013:						
Pits, gravel--------	Not rated		Not rated		Not rated	
2014:						
Pits, quarry, hard bedrock------------	Not rated		Not rated		Not rated	
2020:						
Urban land, valley trains-------------	Not limited		Not rated		Not rated	
2030:						
Udorthents, cut or fill---------------	Not rated		Not rated		Not rated	
Udipsamments, cut or fill---------------	Not rated		Not rated		Not rated	

Table 21.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2040:						
Udipsamments, dredge material-----------	Not rated		Not rated		Not rated	
2050:						
Landfill------------	Not rated		Not rated		Not rated	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water---------------	Not rated		Not rated		Not rated	

Table 22a.--Agricultural Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:				
Palms	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.90	Low adsorption	1.00
	Too acid	0.02	Too acid	0.07
Houghton	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.90	Low adsorption	1.00
	Too acid	0.02	Too acid	0.07
21A:				
Palms	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40	Low adsorption	1.00
	Too acid	0.02	Too acid	0.07
30A:				
Adder	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40	Low adsorption	1.00
110D3:				
Timula	Very limited		Very limited	
	Slope	1.00	Slope	1.00
110E2:				
Timula	Very limited		Very limited	
	Slope	1.00	Slope	1.00
114B2:				
Mt. Carroll	Not limited		Not limited	
115C2:				
Seaton	Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04
115D2:				
Seaton	Very limited		Very limited	
	Slope	1.00	Slope	1.00

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
115E2:				
Seaton	Very limited		Very limited	
	Slope	1.00	Slope	1.00
116C2:				
Churchtown	Somewhat limited		Somewhat limited	
	Slope	0.04	Too acid	0.07
	Too acid	0.02	Slope	0.04
116D2:				
Churchtown	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.02	Too acid	0.07
116E2:				
Churchtown	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.02	Too acid	0.07
126B:				
Barremills	Not limited		Not limited	
132B2:				
Brinkman	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Too acid	0.02	Too acid	0.07
132C2:				
Brinkman	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Slope	0.04	Too acid	0.07
	Too acid	0.02	Slope	0.04
133B2:				
Valton	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Too acid	0.02	Too acid	0.07
133C2:				
Valton	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Slope	0.04	Too acid	0.07
	Too acid	0.02	Slope	0.04
133D2:				
Valton	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Slope	1.00	Slope	1.00
	Too acid	0.02	Too acid	0.07
134C2:				
Lamoille	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Slope	0.04	Slope	0.04

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
134D2:				
Lamoille	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Slope	1.00	Slope	1.00
163E2:				
Elbaville	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Restricted permeability	1.00
	Too acid	0.02	Too acid	0.07
202C2:				
Lambeau	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	0.04	Low adsorption	1.00
			Slope	0.04
202D2:				
Lambeau	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Low adsorption	1.00
			Slope	1.00
213D2:				
Hixton	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Depth to bedrock	0.42	Slope	1.00
	Droughty	0.02	Depth to bedrock	0.42
	Too acid	0.02	Too acid	0.07
			Droughty	0.02
213E2:				
Hixton	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Depth to bedrock	0.42	Slope	1.00
	Droughty	0.02	Depth to bedrock	0.42
	Too acid	0.02	Too acid	0.07
			Droughty	0.02
224B:				
Elevasil	Somewhat limited		Very limited	
	Droughty	0.60	Low adsorption	1.00
	Depth to bedrock	0.42	Droughty	0.60
	Too acid	0.08	Depth to bedrock	0.42
	Filtering capacity	0.01	Too acid	0.31
			Filtering capacity	0.01
224C2:				
Elevasil	Somewhat limited		Very limited	
	Droughty	0.60	Low adsorption	1.00
	Depth to bedrock	0.42	Droughty	0.60
	Too acid	0.08	Depth to bedrock	0.42
	Slope	0.04	Too acid	0.31
	Filtering capacity	0.01	Slope	0.04

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
224D2:				
Elevasil	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Droughty	0.60	Slope	1.00
	Depth to bedrock	0.42	Droughty	0.60
	Too acid	0.08	Depth to bedrock	0.42
	Filtering capacity	0.01	Too acid	0.31
233C:				
Boone	Very limited		Very limited	
	Filtering capacity	1.00	Droughty	1.00
	Droughty	1.00	Filtering capacity	1.00
	Leaching	0.45	Low adsorption	1.00
	Depth to bedrock	0.42	Depth to bedrock	0.42
	Slope	0.37	Slope	0.37
253C2:				
Greenridge	Somewhat limited		Very limited	
	Too acid	0.02	Low adsorption	1.00
			Too acid	0.07
253D2:				
Greenridge	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too acid	0.02	Slope	1.00
			Too acid	0.07
254C2:				
Norden	Somewhat limited		Very limited	
	Depth to bedrock	0.42	Low adsorption	1.00
	Slope	0.04	Depth to bedrock	0.42
	Too acid	0.02	Too acid	0.07
	Droughty	0.01	Slope	0.04
			Droughty	0.01
254D2:				
Norden	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Depth to bedrock	0.42	Slope	1.00
	Too acid	0.02	Depth to bedrock	0.42
	Droughty	0.01	Too acid	0.07
			Droughty	0.01
254E2:				
Norden	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Depth to bedrock	0.42	Slope	1.00
	Too acid	0.02	Depth to bedrock	0.42
	Droughty	0.01	Too acid	0.07
			Droughty	0.01

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
296B:				
Ludington	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	0.99	Low adsorption	1.00
			Too acid	1.00
	Droughty	0.99	Depth to saturated zone	0.99
	Too acid	0.62		
	Depth to bedrock	0.42	Droughty	0.99
312B2:				
Festina	Not limited		Not limited	
318A:				
Bearpen	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.02	Flooding	0.40
			Too acid	0.07
326B2:				
Medary	Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.46	Depth to saturated zone	0.46
	Too acid	0.02	Too acid	0.07
326F:				
Medary	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.46	Depth to saturated zone	0.46
	Too acid	0.11	Too acid	0.42
336A:				
Toddville	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
403A:				
Dakota	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.02	Too acid	0.07
413A:				
Rasset	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.02	Too acid	0.07
424B:				
Merit	Somewhat limited		Somewhat limited	
	Too acid	0.08	Too acid	0.31

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
424D2:				
Merit	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.08	Too acid	0.31
424F:				
Merit	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.22	Too acid	0.77
433B:				
Forkhorn	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.02	Too acid	0.07
	Droughty	0.01	Droughty	0.01
434B:				
Bilson	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.02	Too acid	0.07
434C2:				
Bilson	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	0.04	Too acid	0.07
	Too acid	0.02	Slope	0.04
446A:				
Merimod	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.08	Too acid	0.31
456A:				
Bilmod	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.08	Too acid	0.31
458A:				
Hoop	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.08	Too acid	0.31
	Droughty	0.04	Droughty	0.04
483B2:				
Brice	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.02	Too acid	0.07

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
501A:				
Finchford	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Droughty	0.09
	Droughty	0.09	Too acid	0.07
	Too acid	0.02		
502B2:				
Chelsea	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Too acid	0.07
	Too acid	0.02		
502C2:				
Chelsea	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Slope	0.37
	Slope	0.37	Too acid	0.07
	Too acid	0.02		
511B:				
Plainfield	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Droughty	0.32
	Droughty	0.32	Too acid	0.07
	Too acid	0.02		
511C:				
Plainfield	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Slope	0.37
	Slope	0.37	Droughty	0.32
	Droughty	0.32	Too acid	0.07
	Too acid	0.02		
511F:				
Plainfield	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
	Leaching	0.45	Too acid	1.00
	Droughty	0.09	Droughty	0.09
551A:				
Impact	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Droughty	0.35
	Droughty	0.35	Too acid	0.07
	Too acid	0.02		

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
556A:				
Mindoro	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.21	Droughty	0.21
	Too acid	0.02	Too acid	0.07
561B:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.76	Droughty	0.76
	Leaching	0.45	Too acid	0.31
	Too acid	0.08		
561C:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.76	Droughty	0.76
	Leaching	0.45	Slope	0.37
	Slope	0.37	Too acid	0.31
	Too acid	0.08		
561F:				
Tarr	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.50	Slope	1.00
	Leaching	0.45	Too acid	0.99
	Droughty	0.24	Droughty	0.24
562B:				
Gosil	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Too acid	0.31
	Droughty	0.13	Droughty	0.13
	Too acid	0.08		
562C:				
Gosil	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Leaching	0.45	Too acid	0.31
	Droughty	0.13	Droughty	0.13
	Too acid	0.08	Slope	0.04
	Slope	0.04		
566A:				
Tint	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.74	Too acid	0.77
	Leaching	0.45	Droughty	0.74
	Too acid	0.22		

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
568A:				
Majik	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Droughty	0.57	Droughty	0.57
	Too acid	0.08	Too acid	0.31
569A:				
Newlang	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.90	Flooding	1.00
	Too acid	0.62	Low adsorption	1.00
576B:				
Tintson	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	0.46	Depth to saturated zone	0.46
	Too acid	0.08	Too acid	0.31
	Droughty	0.01	Droughty	0.01
601C:				
Beavercreek	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
	Filtering capacity	0.01	Filtering capacity	0.01
606A:				
Huntsville	Not limited		Somewhat limited	
			Flooding	0.40
608A:				
Lawson	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60	Flooding	1.00
609A:				
Otter	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Leaching	0.70		
625A:				
Arenzville	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
626A:				
Arenzville	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
628A:				
Orion	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60	Flooding	1.00
629A:				
Ettrick	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Restricted permeability	1.00	Restricted permeability	1.00
	Leaching	0.70		
656A:				
Scotah	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
	Droughty	0.56	Droughty	0.56
	Leaching	0.45	Filtering capacity	0.01
	Filtering capacity	0.01		
666A:				
Absco	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.92	Flooding	1.00
	Flooding	0.60	Droughty	0.92
	Too acid	0.08	Too acid	0.31
676A:				
Kickapoo	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
	Too acid	0.02	Too acid	0.07
739A:				
Root	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40		
743C2:				
Council	Somewhat limited		Somewhat limited	
	Too acid	0.08	Too acid	0.31
	Slope	0.04	Slope	0.04
743D2:				
Council	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.08	Too acid	0.31
743E2:				
Council	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.08	Too acid	0.31

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
1125F:				
Dorerton	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too stony	0.76	Too acid	0.42
	Too acid	0.11	Droughty	0.04
	Droughty	0.04		
Elbaville	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Restricted permeability	1.00	Slope	1.00
	Too acid	0.62	Restricted permeability	1.00
			Too acid	1.00
1145F:				
Gaphill	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
			Too acid	1.00
Rockbluff	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
	Leaching	0.45	Too acid	1.00
	Droughty	0.41	Droughty	0.41
1155F:				
Brodale	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too stony	1.00	Slope	1.00
	Droughty	0.90	Droughty	0.90
	Large stones on the surface	0.50	Large stones on the surface	0.50
	Cobble content	0.12	Cobble content	0.12
Bellechester	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Droughty	0.99	Slope	1.00
	Leaching	0.45	Droughty	0.99
Rock outcrop	Not rated		Not rated	
1233F:				
Boone	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Droughty	1.00	Slope	1.00
	Too acid	0.62	Droughty	1.00
	Leaching	0.45	Too acid	1.00

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
1233F:				
Tarr----------------	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
	Leaching	0.45	Too acid	1.00
	Droughty	0.24	Droughty	0.24
1658A:				
Algansee------------	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Droughty	0.26	Droughty	0.26
Kalmarville---------	Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40		
1743F:				
Council-------------	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
			Too acid	1.00
Elevasil------------	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
	Depth to bedrock	0.42	Too acid	1.00
	Droughty	0.25	Depth to bedrock	0.42
Norden--------------	Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
	Depth to bedrock	0.42	Too acid	1.00
			Depth to bedrock	0.42
2002:				
Udorthents, earthen dams---------------	Not rated		Not rated	
2003A:				
Riverwash-----------	Not rated		Not rated	
2013:				
Pits, gravel--------	Not rated		Not rated	

Table 22a.--Agricultural Waste Management--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2014:				
Pits, quarry, hard bedrock------------	Not rated		Not rated	
2020:				
Urban land, valley trains-------------	Not rated		Not rated	
2030:				
Udorthents, cut or fill---------------	Not rated		Not rated	
Udipsamments, cut or fill---------------	Not rated		Not rated	
2040:				
Udipsamments, dredge material-----------	Not rated		Not rated	
2050:				
Landfill------------	Not rated		Not rated	
M-W:				
Miscellaneous water	Not rated		Not rated	
W:				
Water---------------	Not rated		Not rated	

Table 22b.--Agricultural Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:				
Palms	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.07	Seepage	1.00
			Too acid	0.07
Houghton	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.07	Seepage	1.00
			Too acid	0.07
21A:				
Palms	Very limited		Very limited	
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Too acid	0.07	Seepage	1.00
			Too acid	0.07
30A:				
Adder	Very limited		Very limited	
	Filtering capacity	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Seepage	1.00
	Too acid	0.07	Too acid	0.07
110D3:				
Timula	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
110E2:				
Timula	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
114B2:				
Mt. Carroll	Somewhat limited		Very limited	
	Too steep for surface application	0.08	Seepage	1.00
115C2:				
Seaton	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.22	Too steep for surface application	0.50
115D2:				
Seaton	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
115E2:				
Seaton	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
116C2:				
Churchtown	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.22	Too steep for surface application	0.50
	Too acid	0.07	Too acid	0.07
116D2:				
Churchtown	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.07	Too acid	0.07

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
116E2:				
Churchtown----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.07	Too acid	0.07
126B:				
Barremills----------	Not limited		Very limited	
			Seepage	1.00
132B2:				
Brinkman------------	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
	Too steep for surface application	0.08	Too acid	0.07
	Too acid	0.07		
132C2:				
Brinkman------------	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.50
	Too steep for sprinkler application	0.22	Too acid	0.07
	Too acid	0.07		
133B2:				
Valton--------------	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
	Too steep for surface application	0.08	Too acid	0.07
	Too acid	0.07		
133C2:				
Valton--------------	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.50
	Too steep for sprinkler application	0.22	Too acid	0.07
	Too acid	0.07		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
133D2:				
Valton	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Restricted permeability	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	0.07
	Too acid	0.07		
134C2:				
Lamoille	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.50
	Too steep for sprinkler application	0.22	Cobble content	0.01
134D2:				
Lamoille	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Restricted permeability	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Cobble content	0.01
163E2:				
Elbaville	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Restricted permeability	1.00	Too acid	0.07
	Too acid	0.07		
202C2:				
Lambeau	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.50
	Too steep for sprinkler application	0.22		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
202D2:				
Lambeau	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00		
213D2:				
Hixton	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
	Depth to bedrock	0.42	Too steep for surface application	1.00
	Too acid	0.07	Too acid	0.07
	Droughty	0.02		
213E2:				
Hixton	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
	Depth to bedrock	0.42	Too steep for surface application	1.00
	Too acid	0.07	Too acid	0.07
	Droughty	0.02		
224B:				
Elevasil	Somewhat limited		Very limited	
	Droughty	0.60	Seepage	1.00
	Depth to bedrock	0.42	Depth to bedrock	1.00
	Too acid	0.31	Too acid	0.31
	Too steep for surface application	0.08		
	Filtering capacity	0.01		
224C2:				
Elevasil	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Droughty	0.60	Depth to bedrock	1.00
	Depth to bedrock	0.42	Too steep for surface application	0.50
	Too acid	0.31	Too acid	0.31
	Too steep for sprinkler application	0.22		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
224D2:				
Elevasil	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
	Droughty	0.60	Too steep for surface application	1.00
	Depth to bedrock	0.42	Too acid	0.31
	Too acid	0.31		
233C:				
Boone	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.94
	Too steep for sprinkler application	0.60	Too acid	0.31
	Depth to bedrock	0.42		
253C2:				
Greenridge	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.10	Too steep for surface application	0.22
	Too acid	0.07	Too acid	0.07
253D2:				
Greenridge	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.07	Too acid	0.07
254C2:				
Norden	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Depth to bedrock	0.42	Depth to bedrock	1.00
	Too steep for sprinkler application	0.22	Too steep for surface application	0.50
	Too acid	0.07	Too acid	0.07
	Droughty	0.01		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
254D2:				
Norden	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
	Depth to bedrock	0.42	Too steep for surface application	1.00
	Too acid	0.07	Too acid	0.07
	Droughty	0.01		
254E2:				
Norden	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
	Depth to bedrock	0.42	Too steep for surface application	1.00
	Too acid	0.07	Too acid	0.07
	Droughty	0.01		
296B:				
Ludington	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too acid	1.00	Depth to bedrock	1.00
	Depth to saturated zone	0.99	Too acid	1.00
	Droughty	0.99	Depth to saturated zone	0.99
	Depth to bedrock	0.42		
312B2:				
Festina	Somewhat limited		Very limited	
	Too steep for surface application	0.08	Seepage	1.00
318A:				
Bearpen	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.07	Depth to saturated zone	1.00
			Flooding	0.40
			Too acid	0.07
326B2:				
Medary	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
	Depth to saturated zone	0.46	Depth to saturated zone	0.46
	Too acid	0.07	Too acid	0.07

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
326F:				
Medary	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
			Depth to saturated zone	0.46
	Restricted permeability	1.00	Too acid	0.42
	Depth to saturated zone	0.46		
	Too acid	0.42		
336A:				
Toddville	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
403A:				
Dakota	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Too acid	0.07
	Too acid	0.07		
413A:				
Rasset	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Too acid	0.07
	Too acid	0.07		
424B:				
Merit	Somewhat limited		Very limited	
	Too acid	0.31	Seepage	1.00
			Too acid	0.31
424D2:				
Merit	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	0.31
	Too acid	0.31		
424F:				
Merit	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	0.77
	Too acid	0.77		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
433B:				
Forkhorn	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	0.08	Too acid	0.07
	Too acid	0.07		
	Droughty	0.01		
434B:				
Bilson	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too acid	0.07	Too acid	0.07
434C2:				
Bilson	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.50
	Too steep for sprinkler application	0.22	Too acid	0.07
	Too acid	0.07		
446A:				
Merimod	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too acid	0.31	Too acid	0.31
456A:				
Bilmod	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too acid	0.31	Too acid	0.31
458A:				
Hoop	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.31	Too acid	0.31
	Droughty	0.04		
483B2:				
Brice	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	0.08	Too acid	0.07
	Too acid	0.07		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
501A:				
Finchford----------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Droughty	0.09	Too acid	0.07
	Too acid	0.07		
502B2:				
Chelsea------------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	0.08	Too acid	0.07
	Too acid	0.07		
502C2:				
Chelsea------------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.94
	Too steep for sprinkler application	0.60	Too acid	0.07
	Too acid	0.07		
511B:				
Plainfield---------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Droughty	0.32	Too acid	0.07
	Too steep for surface application	0.08		
	Too acid	0.07		
511C:				
Plainfield---------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.94
	Too steep for sprinkler application	0.60	Too acid	0.07
	Droughty	0.32		
	Too acid	0.07		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
511F:				
Plainfield	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	1.00
	Too acid	1.00		
	Droughty	0.09		
551A:				
Impact	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Droughty	0.35	Too acid	0.07
	Too acid	0.07		
556A:				
Mindoro	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Droughty	0.21	Too acid	0.07
	Too acid	0.07		
561B:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Droughty	0.76	Too acid	0.31
	Too acid	0.31		
	Too steep for surface application	0.08		
561C:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.94
	Droughty	0.76	Too acid	0.31
	Too steep for sprinkler application	0.60		
	Too acid	0.31		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
561F:				
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	0.99
	Too acid	0.99		
	Droughty	0.24		
562B:				
Gosil	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too acid	0.31	Too acid	0.31
	Droughty	0.13		
562C:				
Gosil	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.50
	Too acid	0.31	Too acid	0.31
	Too steep for sprinkler application	0.22		
	Droughty	0.13		
566A:				
Tint	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too acid	0.77	Too acid	0.77
	Droughty	0.74		
568A:				
Majik	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Droughty	0.57	Too acid	0.31
	Too acid	0.31		
569A:				
Newlang	Very limited		Very limited	
	Filtering capacity	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Too acid	1.00
	Flooding	0.60	Seepage	1.00

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
576B:				
Tintson-------------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Depth to saturated zone	0.46	Depth to saturated zone	0.46
	Too acid	0.31	Too acid	0.31
	Droughty	0.01		
601C:				
Beavercreek---------	Very limited		Very limited	
	Too steep for surface application	1.00	Flooding	1.00
			Seepage	1.00
			Cobble content	1.00
	Flooding	0.60	Too steep for surface application	0.22
	Too steep for sprinkler application	0.10		
	Filtering capacity	0.01		
606A:				
Huntsville----------	Not limited		Very limited	
			Seepage	1.00
			Flooding	0.40
608A:				
Lawson--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
			Seepage	1.00
	Flooding	0.60	Depth to saturated zone	1.00
609A:				
Otter---------------	Very limited		Very limited	
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
			Ponding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
625A:				
Arenzville----------	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
			Seepage	1.00
626A:				
Arenzville----------	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
			Seepage	1.00
628A:				
Orion---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
			Seepage	1.00
	Flooding	0.60	Depth to saturated zone	1.00

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
629A:				
Ettrick	Very limited		Very limited	
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Flooding	1.00	Ponding	1.00
	Restricted permeability	1.00	Depth to saturated zone	1.00
656A:				
Scotah	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
	Droughty	0.56	Seepage	1.00
	Filtering capacity	0.01		
666A:				
Absco	Very limited		Very limited	
	Filtering capacity	1.00	Flooding	1.00
			Seepage	1.00
	Droughty	0.92	Too acid	0.31
	Flooding	0.60		
	Too acid	0.31		
676A:				
Kickapoo	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
	Too acid	0.07	Seepage	1.00
			Too acid	0.07
739A:				
Root	Very limited		Very limited	
	Filtering capacity	1.00	Flooding	1.00
			Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Cobble content	0.31
743C2:				
Council	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too steep for surface application	0.50
	Too acid	0.31		
	Too steep for sprinkler application	0.22	Too acid	0.31
743D2:				
Council	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too steep for surface application	1.00
	Too steep for sprinkler application	1.00		
			Too acid	0.31
	Too acid	0.31		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
743E2:				
Council	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.31	Too acid	0.31
1125F:				
Dorerton	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.42	Too acid	0.42
	Droughty	0.04	Cobble content	0.29
			Depth to bedrock	0.01
Elbaville	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	1.00
	Restricted permeability	1.00		
	Too acid	1.00		
1145F:				
Gaphill	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	1.00
	Too acid	1.00		
Rockbluff	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	1.00
	Too acid	1.00		
	Droughty	0.41		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
1155F:				
Brodale	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Droughty	0.90	Cobble content	0.97
	Large stones on the surface	0.50	Stone content	0.50
	Cobble content	0.12		
Bellechester	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	0.08
	Droughty	0.99		
Rock outcrop	Not rated		Not rated	
1233F:				
Boone	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Droughty	1.00	Too acid	1.00
	Too acid	1.00		
Tarr	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	1.00
	Too acid	1.00		
	Droughty	0.24		
1658A:				
Algansee	Very limited		Very limited	
	Filtering capacity	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Droughty	0.26		

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1658A:				
Kalmarville	Very limited		Very limited	
	Filtering capacity	1.00	Flooding	1.00
	Ponding	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
1743F:				
Council	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Too acid	1.00
	Too acid	1.00		
Elevasil	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	1.00	Too acid	1.00
	Depth to bedrock	0.42		
Norden	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	1.00	Too acid	1.00
	Depth to bedrock	0.42		
2002:				
Udorthents, earthen dams	Not rated		Not rated	
2003A:				
Riverwash	Not rated		Not rated	
2013:				
Pits, gravel	Not rated		Not rated	
2014:				
Pits, quarry, hard bedrock	Not rated		Not rated	

Table 22b.--Agricultural Waste Management--Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2020:				
Urban land, valley trains	Not rated		Not rated	
2030:				
Udorthents, cut or fill	Not rated		Not rated	
Udipsamments, cut or fill	Not rated		Not rated	
2040:				
Udipsamments, dredge material	Not rated		Not rated	
2050:				
Landfill	Not rated		Not rated	
M-W:				
Miscellaneous water	Not rated		Not rated	
W:				
Water	Not rated		Not rated	

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 23 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Hydrologic soil groups are groups of soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in a bare soil after prolonged wetting and when the soil is not frozen. These properties include the depth to a zone in which the soil moisture status is wet, the infiltration rate, permeability after prolonged wetting, and the depth to a very slowly permeable horizon or horizons. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definitions of the hydrologic soil groups, the infiltration rate is the rate at which water enters the soil at the surface and is controlled by surface conditions. The transmission rate is the rate at which water moves through the soil and is controlled by properties of the soil horizons.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have a moderately fine to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a horizon or horizons that impede the downward movement of water or soils that have a moderately fine or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clayey soils that have a high linear extensibility; soils that have a zone, high in the profile, in which the soil moisture status

is wet on a permanent basis; soils that have a claypan or clay horizon or horizons at or near the surface; and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 24 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 24, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 24, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 24 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (USDA, NRCS).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 25 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Water Features

Soil moisture status is an estimate of the fluctuating water content in a soil. It greatly influences vegetation type and plant growth; physical properties of soils, such as permeability, workability, strength, linear extensibility, and frost action; and chemical interactions and transport. Many other properties, qualities, and interpretations also are affected. Soil moisture status is important in the classification of soils, wetland, and habitat.

Table 26 gives estimates of soil moisture for each component of a map unit at various depths for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most commonly. *Dry* indicates a moisture condition under which most plants (especially crops) cannot extract water for growth. *Moist* indicates a moisture condition under which soil water is most readily available for plant growth. *Wet* indicates a condition under which water will stand in an unlined hole or at least a condition under which the soil is too wet for the growth of most agricultural species. A moisture status of 4.0-6.7 (wet) indicates that most of the time the component is saturated at some depth between 4.0 feet and 6.7 feet during the month designated. In some years the soil may be saturated at a depth of less than 4.0 feet or more than 6.7 feet; however, field observations indicate that the soil will be saturated between these depths in most years. In the summer, the soil may show the effects of drying plus intermittent rains that result in a moist or wet layer over a dry layer that gets moist or wet again.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in marshes and swamps or in closed depressions is considered to be ponding.

Table 27 gives estimates of the frequency and duration of flooding for every month of the year. Flooding frequency is the annual probability of a flood event expressed as a class. *None* indicates no reasonable possibility of flooding (the chance of flooding is nearly 0 percent in any year, or flooding is likely less than once in 500 years). *Very rare* indicates that flooding is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year, or flooding is likely less than once in 100 years but more than once in 500 years). *Rare* indicates that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year, or flooding is likely 1 to 5 times in 100 years). *Occasional* indicates that flooding occurs infrequently under usual weather conditions (the chance of flooding is 5 to 50 percent in any year, or flooding is likely 5 to 50 times in 100 years). *Frequent* indicates that flooding is likely to occur often under usual weather conditions (the chance of flooding is more than 50 percent in any year, or flooding is likely more than 50 times in 100 years; but the chance of flooding is less than 50 percent in all months in any year). *Very frequent* indicates that flooding is likely to occur very often under usual weather conditions (the chance of flooding is more than 50 percent in all months of any year).

Flooding duration is the average duration of inundation per flood occurrence expressed as a class. *Extremely brief* is 0.1 hour to 4.0 hours; *very brief* is 4 to 48 hours; *brief* is 2 to 7 days; *long* is 7 to 30 days; and *very long* is more than 30 days. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and level of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation.

Table 28 gives estimates of the frequency, duration, and depth of ponding for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most commonly.

Ponding frequency is the number of times ponding occurs over a period of time. *None* indicates no reasonable possibility of ponding (the chance of ponding is nearly 0 percent in any year). *Rare* indicates that ponding is unlikely but possible under unusual weather conditions (the chance of ponding ranges from nearly 0 percent to 5 percent in any year, or ponding is likely 0 to 5 times in 100 years). *Occasional* indicates that ponding is expected infrequently under usual weather conditions (the chance of ponding ranges from 5 to 50 percent in any one year, or ponding is likely 5 to 50 times in 100 years). *Frequent* indicates that ponding is likely to occur under usual weather conditions (the chance of ponding is more than 50 percent in any year, or ponding is likely more than 50 times in 100 years).

Ponding duration is the average length of time of the ponding occurrence. It is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days).

Soil Features

Table 29 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the *hardness* of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a zone of saturation close to the surface in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Table 23.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number-- 4	10	40
		In				Pct	Pct			
20A:										
Palms-----------	A/D	0-40	Muck	PT	A-8	0	0	100	100	---
		40-60	Silt loam, silty clay loam, loam, sandy loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	85-100	80-100	70-95
Houghton--------	A/D	0-22	Muck	PT	A-8	0	0	100	100	---
		22-28	Mucky peat	PT	A-8	0	0	100	100	---
		28-60	Muck		A-8	0	0	100	100	---
21A:										
Palms-----------	D	0-40	Muck	PT	A-8	0	0	100	100	---
		40-60	Silt loam, silty clay loam, loam, sandy loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	85-100	80-100	70-95
30A:										
Adder-----------	D	0-22	Muck	PT	A-8	0	0	---	---	---
		22-60	Sand, coarse sand, fine sand	SM, SP-SM	A-1, A-2-4, A-3	0	0	95-100	90-100	45-90
110D3:										
Timula----------	B	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-10
		9-28	Silt loam, silt	ML, CL-ML	A-4	0	0	100	100	95-10
		28-60	Silt loam, silt	ML	A-4	0	0	100	100	95-10
110E2:										
Timula----------	B	0-9	Silt loam	ML, CL-ML	A-4	0	0	100	100	95-10
		9-28	Silt loam, silt	CL-ML, ML	A-4	0	0	100	100	95-10
		28-60	Silt loam, silt	ML	A-4	0	0	100	100	95-10

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pas sieve number		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
114B2:										
Mt. Carroll-----	B	0-9	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100
		9-12	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100
		12-46	Silt loam	CL	A-4, A-6	0	0	100	100	100
		46-80	Silt loam, silt	CL-ML, CL	A-4, A-6	0	0	100	100	100
115C2:										
Seaton----------	B	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100
		8-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100
		13-55	Silt loam	CL	A-4, A-6	0	0	100	100	100
		55-80	Silt loam, silt	CL-ML, CL	A-4, A-6	0	0	100	100	100
115D2:										
Seaton----------	B	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100
		8-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100
		13-55	Silt loam	CL	A-4, A-6	0	0	100	100	100
		55-80	Silt loam, silt	CL-ML, CL	A-4, A-6	0	0	100	100	100
115E2:										
Seaton----------	B	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100
		8-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100
		13-55	Silt loam	CL	A-4, A-6	0	0	100	100	100
		55-80	Silt loam, silt	CL-ML, CL	A-4, A-6	0	0	100	100	100
116C2:										
Churchtown------	B	0-9	Silt loam	CL-ML, CL	A-6, A-4	0-5	0-10	90-100	90-100	80-1
		9-26	Silt loam, loam	CL-ML, CL	A-6, A-4	0-5	0-10	90-100	90-100	65-9
		26-63	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	85-1
		63-80	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100
116D2:										
Churchtown------	B	0-9	Silt loam	CL-ML, CL	A-6, A-4	0-5	0-10	90-100	90-100	80-1
		9-26	Silt loam, loam	CL-ML, CL	A-6, A-4	0-5	0-10	90-100	90-100	65-9
		26-63	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	85-1
		63-80	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100
116E2:										
Churchtown------	B	0-9	Silt loam	CL-ML, CL	A-6, A-4	0-5	0-10	90-100	90-100	80-1
		9-26	Silt loam, loam	CL-ML, CL	A-6, A-4	0-5	0-10	90-100	90-100	65-9
		26-63	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	85-1
		63-80	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro- logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
		In				Pct	Pct			
126B:										
Barremills------	B	0-27	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-10
		27-65	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-10
		65-80	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-10
132B2:										
Brinkman--------	B	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-10
		9-71	Silt loam, silty clay loam	CL	A-4, A-6	0	0	95-100	95-100	90-10
		71-80	Clay, silty clay, channery clay, silty clay loam, clay loam, flaggy clay loam	CH, SC	A-7	0-10	0-25	55-100	50-100	45-90
132C2:										
Brinkman--------	B	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-10
		9-71	Silt loam, silty clay loam	CL	A-4, A-6	0	0	95-100	95-100	90-10
		71-80	Clay, silty clay, channery clay, silty clay loam, clay loam, flaggy clay loam	CH, SC	A-7	0-10	0-25	55-100	50-100	45-90
133B2:										
Valton----------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	75-100	75-100	70-10
		9-22	Silt loam, silty clay loam	CL	A-4, A-6, A-7	0	0	75-100	75-100	70-10
		22-60	Clay, silty clay, channery clay, silty clay loam, clay loam, flaggy clay loam	CH, SC	A-7	0-10	0-25	55-100	50-100	45-95

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
		In				Pct	Pct			
133C2:										
Valton----------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	75-100	75-100	70-10
		9-22	Silt loam, silty clay loam	CL	A-4, A-6, A-7	0	0	75-100	75-100	70-10
		22-60	Clay, silty clay, channery clay, silty clay loam, clay loam, flaggy clay loam	CH, SC	A-7	0-10	0-25	55-100	50-100	45-9
133D2:										
Valton----------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	75-100	75-100	70-10
		9-22	Silt loam, silty clay loam	CL	A-4, A-6, A-7	0	0	75-100	75-100	70-10
		22-60	Clay, silty clay, channery clay, silty clay loam, clay loam, flaggy clay loam	CH, SC	A-7	0-10	0-25	55-100	50-100	45-9
134C2:										
Lamoille--------	C	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0-2	80-100	75-100	70-10
		9-13	Silt loam	CL, CL-ML	A-4, A-6	0	0-2	80-100	75-100	70-10
		13-27	Clay, clay loam, gravelly clay, silty clay loam, silty clay	CH, GC, SC, CL	A-7	0-10	5-25	65-95	55-85	50-8
		27-37	Extremely cobbly loam, very cobbly clay loam	SC, GC	A-2-6, A-6, A-7	1-20	10-50	30-75	25-65	15-5
		37-60	Very cobbly loam, extremely cobbly sandy loam	GC, GC-GM	A-1, A-2-4, A-4	1-20	45-60	25-60	20-55	15-5

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
134D2:										
Lamoille--------	C	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0-2	80-100	75-100	70-10
		9-13	Silt loam	CL, CL-ML	A-4, A-6	0	0-2	80-100	75-100	70-10
		13-27	Clay, clay loam, gravelly clay, silty clay loam, silty clay	CH, GC, SC, CL	A-7	0-10	5-25	65-95	55-85	50-80
		27-37	Extremely cobbly loam, very cobbly clay loam	SC, GC	A-2-6, A-6, A-7	1-20	10-50	30-75	25-65	15-55
		37-60	Extremely cobbly sandy loam, very cobbly loam	GC, GC-GM	A-1, A-2-4, A-4	1-20	45-60	25-60	20-55	15-50
163E2:										
Elbaville-------	B	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-10
		8-11	Silt loam, silt	CL-ML, CL	A-6, A-4	0	0	100	100	90-10
		11-21	Silt loam, silty clay loam, loam	CL	A-4, A-6, A-7	0	0	100	100	95-10
		21-26	Silty clay, silty clay loam, channery clay, flaggy clay loam	CH, CL, MH, ML	A-7	0-10	0-20	90-100	80-100	75-10
		26-37	Very flaggy silty clay loam, very channery clay, very channery clay loam, extremely flaggy loam, extremely channery silty clay	GC, GM, SC, SM	A-2, A-4, A-6, A-7	1-10	20-55	35-75	35-75	25-65
		37-60	Extremely flaggy sandy loam, very channery loam, very flaggy loamy sand, extremely channery sand	GM, SM	A-1, A-2-4	1-10	20-55	35-75	35-75	15-50

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
		In				Pct	Pct			
202C2:										
Lambeau---------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-10
		9-42	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-10
		42-54	Loam, sandy loam, fine sandy loam	CL-ML, SC-SM, SC, CL	A-2-4, A-4	0	0	80-100	75-100	60-95
		54-64	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-2	55-100	50-100	30-90
		64-80	Weathered bedrock	---	---	---	---	---	---	---
202D2:										
Lambeau---------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-10
		9-42	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-10
		42-54	Loam, sandy loam, fine sandy loam	CL-ML, SC-SM, SC, CL	A-2-4, A-4	0	0	80-100	75-100	60-95
		54-64	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-2	55-100	50-100	30-90
		64-80	Weathered bedrock	---	---	---	---	---	---	---
213D2:										
Hixton----------	B	0-8	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-10
		8-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-10
		20-32	Loam, sandy loam, fine sandy loam	SC, CL, CL-ML, SC-SM	A-2-4, A-4	0	0	80-100	75-100	60-95
		32-37	Channery sand, sand, channery fine sand	SP-SM, SP	A-1-b, A-3	0	0-9	55-100	50-100	30-90
		37-60	Weathered bedrock	---	---	---	---	---	---	---

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
		In				Pct	Pct			
213E2:										
Hixton----------	B	0-8	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-10
		8-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-10
		20-32	Loam, sandy loam, fine sandy loam	SC, CL, CL-ML, SC-SM	A-2-4, A-4	0	0	80-100	75-100	60-95
		32-37	Channery sand, sand, channery fine sand	SP-SM, SP	A-1-b, A-3	0	0-9	55-100	50-100	30-90
		37-60	Weathered bedrock	---	---	---	---	---	---	---
224B:										
Elevasil--------	B	0-9	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		9-27	Sandy loam, loam	SC, CL, CL-ML, SC-SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		27-31	Loamy sand, loamy fine sand, channery sand, fine sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0-9	55-100	50-100	30-90
		31-39	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-9	55-100	50-100	30-90
		39-60	Weathered bedrock	---	---	---	---	---	---	---
224C2:										
Elevasil--------	B	0-9	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		9-27	Sandy loam, loam	SC, CL, CL-ML, SC-SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		27-31	Loamy sand, loamy fine sand, channery sand, fine sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0-9	55-100	50-100	30-90
		31-39	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-9	55-100	50-100	30-90
		39-60	Weathered bedrock	---	---	---	---	---	---	---

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
224D2:										
Elevasil--------	B	0-9	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		9-27	Sandy loam, loam	SC, CL, CL-ML, SC-SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		27-31	Loamy sand, loamy fine sand, channery sand, fine sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0-9	55-100	50-100	30-90
		31-39	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-9	55-100	50-100	30-90
		39-60	Weathered bedrock	---	---	---	---	---	---	---
233C:										
Boone-----------	A	0-8	Sand	SM, SP-SM	A-2-4, A-3	0	0-9	80-100	75-100	55-90
		8-21	Sand, fine sand, loamy sand, channery sand, loamy fine sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0-9	55-100	50-100	20-85
		21-35	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-9	55-100	50-100	20-85
		35-60	Weathered bedrock	---	---	---	---	---	---	---
253C2:										
Greenridge------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-10
		9-50	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-10
		50-69	Loam, fine sandy loam, channery sandy loam, sandy clay loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4, A-6	0	0-3	55-100	50-100	35-95
		69-80	Weathered bedrock	---	---	---	---	0	0	---

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
253D2:										
Greenridge------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-10
		9-50	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-10
		50-69	Loam, fine sandy loam, channery sandy loam, sandy clay loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4, A-6	0	0-3	55-100	50-100	35-95
		69-80	Weathered bedrock	---	---	---	---	0	0	---
254C2:										
Norden----------	B	0-8	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-10
		8-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-10
		20-37	Loam, fine sandy loam, channery sandy loam, sandy clay loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4, A-6	0	0-3	55-100	50-100	35-95
		37-60	Weathered bedrock	---	---	---	---	---	---	---
254D2:										
Norden----------	B	0-8	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-10
		8-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-10
		20-37	Loam, fine sandy loam, channery sandy loam, sandy clay loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4, A-6	0	0-3	55-100	50-100	35-95
		37-60	Weathered bedrock	---	---	---	---	---	---	---
254E2:										
Norden----------	B	0-8	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-10
		8-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-10
		20-37	Loam, fine sandy loam, channery sandy loam, sandy clay loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4, A-6	0	0-3	55-100	50-100	35-95
		37-60	Weathered bedrock	---	---	---	---	---	---	---

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage passi sieve number--		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
296B:										
Ludington-------	C	0-1	Moderately decomposed plant material	---	A-8	0	0	---	---	---
		1-4	Sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	80-100	75-100	20-70
		4-11	Sand, coarse sand, loamy sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	80-100	75-100	20-95
		11-16	Sand, coarse sand, loamy sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	80-100	75-100	20-95
		16-33	Sand, coarse sand, loamy sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	80-100	75-100	20-95
		33-39	Loam, sandy clay loam, clay loam, sandy loam, very fine sandy loam, silty clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6, A-7	0	0	80-100	75-95	45-90
		39-60	Weathered bedrock	---	---	---	---	0	0	---
312B2:										
Festina---------	B	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100
		7-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100
		12-38	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100
		38-68	Silt loam	CL	A-6	0	0	100	100	100

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
		In				Pct	Pct			
318A:										
Bearpen---------	C	0-18	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-10
		18-41	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	85-10
		41-50	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-2-6, A-4, A-6	0	0	100	100	55-95
		50-60	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0	100	100	55-95
326B2:										
Medary----------	C	0-7	Silt loam	CL	A-6, A-4	0	0	100	100	80-10
		7-14	Silt loam	CL	A-4, A-6	0	0	100	100	80-10
		14-30	Stratified clay to silty clay loam	CH, CL	A-7	0	0	100	100	85-10
		30-60	Stratified clay to silt loam	CH, CL	A-6, A-7	0	0	100	100	85-10
326F:										
Medary----------	C	0-3	Silt loam	CL	A-4, A-6	0	0	100	100	80-10
		3-14	Silt loam	CL	A-4, A-6	0	0	100	100	80-10
		14-30	Stratified clay to silty clay loam	CH, CL	A-7	0	0	100	100	85-10
		30-60	Stratified clay to silt loam	CH, CL	A-6, A-7	0	0	100	100	85-10
336A:										
Toddville-------	B	0-20	Silt loam	CL	A-4, A-6	0	0	100	100	90-10
		20-41	Silt loam, silty clay loam	CL	A-6	0	0	100	100	90-10
		41-50	Stratified silt loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	100	85-10
		50-60	Stratified sand to loamy fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	65-90

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
403A:										
Dakota----------	B	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-10
		10-13	Silt loam, loam, sandy clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	85-100	60-10
		13-35	Silt loam, loam, sandy loam, silty clay loam, sandy clay loam	CL, SC	A-6	0	0	95-100	85-100	50-90
		35-38	Loamy sand, loamy coarse sand, gravelly coarse sand	SM, SP, SP-SM	A-1, A-2-4	0	0-9	60-100	50-100	20-75
		38-60	Stratified gravelly coarse sand to sand	SP, SP-SM	A-1-b, A-3	0	0-9	60-100	50-100	20-70
413A:										
Rasset----------	B	0-10	Sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0-9	90-100	75-100	45-80
		10-18	Sandy loam, loam	SC, SC-SM, SM	A-2-4, A-4	0	0-9	90-100	75-100	45-80
		18-30	Sandy loam, loam	SC, SC-SM, SM	A-4, A-6	0	0-9	90-100	75-100	45-80
		30-50	Loamy sand, sand, loamy coarse sand, gravelly coarse sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0-9	60-100	50-100	15-75
		50-60	Stratified gravelly coarse sand to sand	SP, SP-SM	A-1-b, A-3	0	0-9	60-100	50-100	25-75
424B:										
Merit-----------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-10
		9-12	Silt loam	CL	A-4, A-6	0	0	100	100	85-10
		12-30	Loam, sandy loam, sandy clay loam	CL, SC	A-2-4, A-2-6, A-4, A-6	0	0	80-100	75-100	60-95
		30-60	Stratified sand to fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0	80-100	75-100	55-95

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
424D2:										
Merit-----------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-10
		9-12	Silt loam	CL	A-4, A-6	0	0	100	100	85-10
		12-30	Loam, sandy loam, sandy clay loam	CL, SC	A-2-4, A-2-6, A-4, A-6	0	0	80-100	75-100	60-95
		30-60	Stratified sand to fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0	80-100	75-100	55-95
424F:										
Merit-----------	B	0-3	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-10
		3-12	Silt loam	CL	A-4, A-6	0	0	100	100	85-10
		12-30	Loam, sandy loam, sandy clay loam	CL, SC	A-2-4, A-2-6, A-4, A-6	0	0	80-100	75-100	60-95
		30-60	Stratified sand to fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0	80-100	75-100	55-95
433B:										
Forkhorn--------	B	0-9	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0-9	80-100	75-100	45-80
		9-25	Sandy loam, fine sandy loam, loam	CL, ML, SC, SM	A-2-4, A-4	0	0-9	80-100	75-100	45-95
		25-32	Gravelly loamy sand, coarse sand, sand, loamy coarse sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0-9	60-100	50-100	20-70
		32-72	Stratified gravelly coarse sand to sand	SP-SM, SP	A-1-b, A-3	0	0-9	60-100	50-100	15-75
434B:										
Bilson----------	B	0-8	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		8-32	Sandy loam, fine sandy loam, loam	CL, ML, SC, SM	A-2-4, A-4	0	0	80-100	75-100	60-95
		32-38	Stratified sand to loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0	80-100	75-100	55-90
		38-60	Stratified sand to sandy loam	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
434C2:										
Bilson----------	B	0-8	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		8-32	Sandy loam, fine sandy loam, loam	CL, ML, SC, SM	A-2-4, A-4	0	0	80-100	75-100	60-95
		32-38	Stratified sand to loamy sand	SM, SP-SM, SP	A-3, A-2-4	0	0	80-100	75-100	55-90
		38-60	Stratified sand to sandy loam	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
446A:										
Merimod---------	B	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-10
		9-17	Silt loam	CL	A-4, A-6	0	0	100	100	85-10
		17-32	Loam, sandy loam, sandy clay loam	CL, SC	A-2-4, A-2-6, A-4, A-6	0	0	80-100	75-100	60-95
		32-52	Stratified sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		52-60	Stratified sand to fine sandy loam	SM, SP-SM	A-3, A-2-4	0	0	80-100	75-100	55-90
456A:										
Bilmod----------	B	0-9	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		9-24	Sandy loam, loam, fine sandy loam	CL, ML, SC, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		24-32	Loamy sand, sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		32-46	Stratified sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		46-60	Stratified sand to sandy loam	SM, SP-SM	A-3, A-2-4	0	0	80-100	75-100	55-90
458A:										
Hoop------------	C	0-11	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		11-24	Sandy loam, fine sandy loam, loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0	80-100	75-100	60-95
		24-34	Sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		34-60	Sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
483B2:										
Brice-----------	B	0-9	Loamy fine sand	SM	A-2-4	0	0	100	100	75-10
		9-23	Fine sand	SM	A-2-4	0	0	100	100	75-10
		23-35	Fine sandy loam, loamy fine sand	SC-SM, SM	A-4, A-2-4	0	0	100	100	75-10
		35-42	Fine sand	SM	A-2-4	0	0	100	100	75-10
		42-80	Stratified fine sand to fine sandy loam	SM	A-2-4, A-4	0	0	100	100	75-10
501A:										
Finchford-------	A	0-15	Loamy sand	SM, SP-SM	A-2-4	0	0-8	85-100	75-100	35-75
		15-19	Loamy sand, sand, coarse sand	SM, SP-SM	A-2-4	0	0-8	85-100	75-100	30-75
		19-26	Sand, loamy sand, gravelly coarse sand	SP-SM, SW-SM, SM	A-1-b, A-3	0	0-8	80-95	50-95	25-70
		26-80	Stratified gravelly coarse sand to sand	SP, SP-SM, SW, SW-SM	A-3, A-1-b	0	0-8	60-95	50-95	20-60
502B2:										
Chelsea---------	A	0-9	Fine sand	SM	A-2-4	0	0	100	100	75-10
		9-30	Fine sand, loamy fine sand	SM	A-2-4	0	0	100	100	75-10
		30-80	Stratified fine sand to fine sandy loam	SM	A-2-4, A-4	0	0	100	100	75-10
502C2:										
Chelsea---------	A	0-9	Fine sand	SM	A-2-4	0	0	100	100	75-10
		9-30	Fine sand, loamy fine sand	SM	A-2-4	0	0	100	100	75-10
		30-80	Stratified fine sand to fine sandy loam	SM	A-2-4, A-4	0	0	100	100	75-10

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydrologic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40
		In				Pct	Pct			
511B:										
Plainfield------	A	0-9	Sand	SM, SP-SM	A-2, A-3, A-1	0	0	75-100	75-100	20-70
		9-32	Sand, loamy sand, coarse sand, loamy coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	75-100	75-100	20-70
		32-80	Stratified gravelly coarse sand to sand	SP, SP-SM	A-1, A-2, A-3	0	0-9	60-100	50-100	15-55
511C:										
Plainfield------	A	0-9	Sand	SM, SP-SM	A-2, A-3, A-1	0	0	75-100	75-100	20-70
		9-32	Sand, loamy sand, coarse sand, loamy coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	75-100	75-100	20-70
		32-80	Stratified gravelly coarse sand to sand	SP, SP-SM	A-1, A-2, A-3	0	0-9	60-100	50-100	15-55
511F:										
Plainfield------	A	0-1	Moderately decomposed plant material	---	A-8	0	0	100	100	---
		1-4	Sand	SM, SP-SM	A-1, A-2-4, A-3	0	0	75-100	75-100	20-70
		4-32	Sand, loamy sand, coarse sand, loamy coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	75-100	75-100	20-70
		32-80	Stratified gravelly coarse sand to sand	SP, SP-SM	A-1, A-2, A-3	0	0-9	60-100	50-100	15-55

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
		In				Pct	Pct			
551A:										
Impact----------	A	0-8	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		8-15	Sand, loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		15-36	Sand, loamy sand, loamy fine sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		36-60	Sand, fine sand	SP, SP-SM	A-3	0	0	95-100	90-100	60-90
556A:										
Mindoro---------	B	0-9	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		9-17	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		17-45	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		45-60	Sand, fine sand	SP, SP-SM	A-3	0	0	95-100	90-100	60-90
561B:										
Tarr------------	A	0-9	Sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		9-34	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
		34-62	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
561C:										
Tarr------------	A	0-9	Sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		9-34	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
		34-62	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
561F:										
Tarr------------	A	0-2	Moderately decomposed plant material	---	A-8	0	0	---	---	---
		2-6	Sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		6-34	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
		34-62	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
562B:										
Gosil-----------	A	0-9	Loamy sand	SM	A-2-4	0	0	80-100	75-100	60-90
		9-23	Loamy sand, loamy fine sand	SM	A-2-4	0	0	80-100	75-100	60-90
		23-27	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		27-60	Stratified sand to loamy fine sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
562C:										
Gosil-----------	A	0-9	Loamy sand	SM	A-2-4	0	0	80-100	75-100	60-90
		9-23	Loamy sand, loamy fine sand	SM	A-2-4	0	0	80-100	75-100	60-90
		23-27	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	0	80-100	75-100	55-90
		27-60	Stratified sand to loamy fine sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
566A:										
Tint------------	A	0-9	Sand	SM, SP-SM	A-2-4	0	0	80-100	75-100	55-90
		9-34	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
		34-60	Sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0	80-100	75-100	55-90
568A:										
Majik-----------	C	0-4	Loamy fine sand	SM, SC-SM	A-2-4	0	0	95-100	90-100	65-90
		4-7	Sand, fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		7-29	Sand, loamy fine sand, fine sand, loamy sand	SM, SP-SM	A-3, A-2-4	0	0	95-100	90-100	60-90
		29-60	Fine sand, sand	SP-SM, SP	A-3	0	0	95-100	90-100	60-90
569A:										
Newlang---------	A/D	0-3	Muck	PT	A-8	0	0	---	---	---
		3-6	Mucky sand, loamy sand, sand, mucky loamy sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		6-22	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		22-63	Sand	SP, SP-SM	A-3	0	0	95-100	90-100	60-90
576B:										
Tintson---------	B	0-8	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		8-46	Sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		46-60	Stratified silt loam to sandy loam	CL, ML, SC, SM	A-2-4, A-4	0	0	95-100	90-100	55-10

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
601C:										
Beavercreek-----	B	0-5	Cobbly fine sandy loam	SM	A-2-4, A-4	0	1-25	70-100	50-75	35-70
		5-12	Stratified cobbly fine sandy loam to silt loam	SM	A-2-4, A-4	0	1-25	70-100	65-92	35-70
		12-60	Stratified very cobbly silt loam to extremely gravelly sand	SM, GM	A-1, A-2-4	0	30-60	45-80	40-70	25-50
606A:										
Huntsville------	B	0-12	Silt loam	CL	A-6	0	0	100	100	90-10
		12-50	Silt loam	CL	A-6	0	0	100	100	90-10
		50-60	Stratified silt loam to loam	CL	A-6	0	0	100	100	85-10
608A:										
Lawson----------	C	0-30	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-10
		30-60	Stratified silty clay loam to sandy loam	CL	A-6	0	0	100	100	85-10
609A:										
Otter-----------	B/D	0-25	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-10
		25-60	Stratified silty clay loam to sandy loam	CL	A-6	0	0	100	100	85-10
625A:										
Arenzville------	B	0-10	Silt loam	ML, CL-ML	A-4	0	0	100	100	80-10
		10-25	Silt loam	ML, CL-ML	A-4	0	0	100	100	80-10
		25-40	Silt loam, silty clay loam	CL-ML, ML, CL	A-6, A-4	0	0	100	100	80-10
		40-60	Stratified silt loam to very fine sand	CL, CL-ML, ML	A-4	0	0	75-100	75-100	75-10

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number-- 4	10	40
		In				Pct	Pct			
626A:										
Arenzville------	B	0-10	Silt loam	ML, CL-ML	A-4	0	0	100	100	80-10
		10-25	Silt loam	ML, CL-ML	A-4	0	0	100	100	80-10
		25-40	Silt loam, silty clay loam	CL-ML, ML, CL	A-6, A-4	0	0	100	100	80-10
		40-60	Stratified silt loam to very fine sand	CL, CL-ML, ML	A-4	0	0	75-100	75-100	75-10
628A:										
Orion-----------	C	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	85-10
		8-32	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-10
		32-40	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-10
		40-60	Stratified silt loam to very fine sand	CL, CL-ML, ML	A-4	0	0	80-100	80-100	80-10
629A:										
Ettrick---------	B/D	0-16	Silt loam	CL	A-6, A-7	0	0	100	100	90-10
		16-35	Silt loam, silty clay loam	CH, CL	A-7	0	0	100	100	90-10
		35-60	Stratified silt loam to fine sand	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6, A-7	0	0	100	100	60-10
656A:										
Scotah----------	A	0-4	Loamy fine sand	SM	A-2-4, A-4	0	0	85-100	75-100	55-95
		4-22	Fine sand, sand, loamy sand, loamy fine sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	85-100	75-100	20-95
		22-60	Stratified loamy fine sand to gravelly coarse sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0-9	60-100	50-100	15-85

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40
		In				Pct	Pct			
666A:										
Absco-----------	B	0-4	Loamy sand	SM	A-2-4	0	0	95-100	90-100	65-90
		4-14	Sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-90
		14-60	Stratified sand to loamy sand	SP, SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	60-90
676A:										
Kickapoo--------	B	0-5	Fine sandy loam	ML, SM	A-4, A-2-4	0	0	80-100	75-100	50-85
		5-36	Stratified gravelly sand to silt	SC, SC-SM, CL-ML, CL	A-4, A-2-4	0	0	55-100	50-100	35-90
		36-41	Silt loam, loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0	80-100	75-100	40-95
		41-60	Stratified gravelly loamy sand to silt	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0	55-100	50-100	35-90
739A:										
Root------------	D	0-7	Loam	SC-SM, SM, CL-ML, ML	A-4, A-2-4	0	0-10	55-95	50-95	35-80
		7-21	Loam, channery loam, silt loam	SC-SM, SM, CL-ML, ML	A-4, A-2-4	0	0-10	55-95	50-95	35-80
		21-60	Extremely channery sandy loam, very flaggy loam, silt loam, channery fine sandy loam	GP, GM, SM, SP	A-1, A-2-4, A-3	1-20	25-60	20-80	15-75	10-60
743C2:										
Council---------	B	0-7	Fine sandy loam	SM, ML	A-4	0	0	75-100	75-100	60-90
		7-45	Silt loam, loam, fine sandy loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	75-100	75-100	65-95
		45-60	Loam, silt loam, sandy loam, fine sandy loam	SM, SC, SC-SM, CL, ML, CL-ML	A-4	0	0	75-100	75-100	65-95

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-- 4	10	40
		In				Pct	Pct			
743D2:										
Council---------	B	0-7	Fine sandy loam	SM, ML	A-4	0	0	75-100	75-100	60-90
		7-45	Silt loam, loam, fine sandy loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	75-100	75-100	65-95
		45-60	Loam, silt loam, sandy loam, fine sandy loam	SM, SC, SC-SM, CL, ML, CL-ML	A-4	0	0	75-100	75-100	65-95
743E2:										
Council---------	B	0-7	Fine sandy loam	SM, ML	A-4	0	0	75-100	75-100	60-90
		7-45	Silt loam, loam, fine sandy loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	75-100	75-100	65-95
		45-60	Loam, silt loam, sandy loam, fine sandy loam	SM, SC, SC-SM, CL, ML, CL-ML	A-4	0	0	75-100	75-100	65-95
1125F:										
Dorerton--------	B	0-3	Loam	CL-ML, CL	A-4	1-3	0-5	95-100	85-100	70-95
		3-15	Loam, sandy loam, fine sandy loam, silt loam	ML, SM	A-4	0	0-10	95-100	85-100	55-80
		15-18	Loam, clay loam, silty clay loam, silt loam	CL, ML	A-4, A-6	0	0-10	95-100	85-100	70-95
		18-30	Very channery clay loam, very channery loam, extremely flaggy loam	GC, SC, SC-SM	A-1, A-2	1-20	20-55	40-75	35-70	25-50
		30-60	Extremely flaggy loamy sand, extremely channery loam, very flaggy sand, very channery sandy loam	GM, GW-GM, SM	A-1, A-2-4	1-20	20-55	40-75	35-70	15-40

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
1125F:										
Elbaville-------	B	0-1	Moderately decomposed plant material	---	A-8	0	0	100	100	---
		1-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-10
		5-11	Silt loam, silt	CL-ML, CL	A-4	0	0	100	100	90-10
		11-21	Silt loam, silty clay loam, loam	CL	A-4, A-6, A-7	0	0	100	100	95-10
		21-26	Silty clay, silty clay loam, channery clay, flaggy clay loam	CH, CL, MH, ML	A-7	0-10	0-20	90-100	80-100	75-10
		26-37	Very flaggy silty clay loam, very channery clay, very channery clay loam, extremely flaggy loam, extremely channery silty clay	GC, GM, SC, SM	A-2, A-4, A-6, A-7	1-10	20-55	35-75	35-75	25-65
		37-60	Extremely flaggy sandy loam, very channery loam, very flaggy loamy sand, extremely channery sand	GM, SM	A-1, A-2-4	1-10	20-55	40-80	35-75	15-50

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number-- 4	10	40
		In				Pct	Pct			
1145F:										
Gaphill---------	B	0-2	Moderately decomposed plant material	---	A-8	0	0	100	100	---
		2-5	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0-9	80-100	75-100	45-80
		5-11	Sandy loam, fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0-1	0-9	80-100	75-100	45-95
		11-32	Sandy loam, fine sandy loam, loam	CL, ML, SC, SM	A-2-4, A-4	0-3	0-9	80-100	75-100	45-95
		32-50	Sand, fine sand, loamy sand, channery sand, flaggy sand	SM, SP	A-1-b, A-2-4, A-3	0-5	0-9	55-100	50-100	20-85
		50-56	Sand, fine sand, channery sand, flaggy sand	SP-SM, SP	A-1-b, A-3	0-5	0-9	55-100	50-100	20-85
		56-80	Weathered bedrock	---	---	---	---	---	---	---
Rockbluff-------	A	0-2	Moderately decomposed plant material	---	A-8	0	0	100	100	---
		2-4	Loamy sand	SM	A-1-b	0	0-9	80-100	75-100	30-75
		4-9	Loamy sand, sand, fine sand, loamy fine sand	SM, SP-SM	A-1-b, A-3	0	0-9	80-100	75-100	20-85
		9-35	Sand, fine sand, channery loamy sand, flaggy sand	SM, SP	A-1-b, A-3	0-3	0-9	55-100	50-100	20-85
		35-52	Sand, fine sand, channery sand, flaggy sand	SP-SM, SP	A-1-b, A-3	0-5	0-9	55-100	50-100	20-85
		52-80	Weathered bedrock	---	---	---	---	---	---	---

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	Percentage pass sieve number-: 10	Percentage pass sieve number-: 40
		In				Pct	Pct			
1155F:										
Brodale---------	C	0-6	Very flaggy loam	GM, SM, GC, SC	A-2-4, A-4	1-20	10-30	55-70	45-60	35-55
		6-50	Very flaggy very fine sandy loam, flaggy silt loam, very cobbly loam, cobbly sandy loam	GM, SM, GC, SC	A-2-4, A-1, A-4	1-20	20-50	50-70	45-60	25-55
		50-80	Weathered bedrock	---	---	---	---	---	---	---
Bellechester----	A	0-7	Sand	SP-SM	A-3	0	0-10	90-100	75-100	20-70
		7-23	Sand, fine sand, loamy sand, loamy fine sand	SP-SM	A-3	0	0-10	90-100	75-100	20-80
		23-42	Sand, fine sand, flaggy sand, channery loamy sand	SP, SP-SM	A-2-4, A-3	0	0-45	80-100	55-100	15-85
		42-80	Weathered bedrock	---	---	---	---	---	---	---
Rock outcrop.										
1233F:										
Boone-----------	A	0-1	Moderately decomposed plant material	---	A-8	0	0	---	---	---
		1-3	Sand	SM, SP-SM	A-2-4, A-3	0	0-9	80-100	75-100	55-90
		3-21	Sand, fine sand, loamy sand, channery sand, loamy fine sand	SM, SP, SP-SM	A-1, A-2-4, A-3	0	0-9	55-100	50-100	20-85
		21-35	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-9	55-100	50-100	20-85
		35-60	Weathered bedrock	---	---	---	---	---	---	---

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number-- 4	10	40
		In				Pct	Pct			
1233F:										
Tarr------------	A	0-2	Moderately decomposed plant material	---	A-8	0	0	---	---	---
		2-6	Sand	SM, SP-SM	A-2-4, A-3	0	0	80-100	75-100	55-90
		6-34	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
		34-62	Sand, fine sand	SP, SP-SM	A-3	0	0	80-100	75-100	55-90
1658A:										
Algansee--------	C	0-4	Fine sandy loam	SC-SM, SM	A-4	0	0	100	100	75-90
		4-31	Loamy fine sand, fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	85-100	75-100	25-95
		31-60	Stratified gravelly coarse sand to loamy fine sand	GM, SM	A-1-b, A-2-4, A-3	0	0	60-100	50-100	15-95
Kalmarville-----	D	0-6	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	70-10
		6-37	Stratified sandy loam to silt loam	CL-ML, ML, SC-SM, SM	A-4	0	0	95-100	90-100	65-95
		37-42	Stratified sandy loam to silt loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	95-100	85-100	60-90
		42-60	Stratified coarse sand to fine sand	SM, SP-SM	A-1, A-2-4, A-3	0	0	90-100	85-100	25-85
1743F:										
Council---------	B	0-1	Moderately decomposed plant material	---	A-8	0	0	---	---	---
		1-3	Loam	ML, SM	A-4	0	0	75-100	75-100	75-95
		3-45	Silt loam, loam, fine sandy loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	75-100	75-100	60-95
		45-60	Loam, silt loam, sandy loam, fine sandy loam	SM, SC, SC-SM, CL, ML, CL-ML	A-4	0	0	75-100	75-100	60-95

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
		In				Pct	Pct			
1743F:										
Elevasil--------	B	0-1	Moderately decomposed plant material	---	A-8	0	0	---	---	---
		1-3	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	80-100	75-100	60-90
		3-27	Sandy loam, loam	CL-ML, SC-SM, SC, CL	A-2-4, A-4	0	0	80-100	75-100	60-90
		27-31	Loamy sand, loamy fine sand, channery sand, fine sand	SM, SP, SP-SM	A-1-b, A-2-4, A-3	0	0-9	55-100	50-100	30-90
		31-39	Sand, fine sand, channery sand	SP, SP-SM	A-1-b, A-3	0	0-9	55-100	50-100	30-90
		39-60	Weathered bedrock	---	---	---	---	---	---	---
Norden----------	B	0-1	Moderately decomposed plant material	---	A-8	0	0	---	---	---
		1-3	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-10
		3-20	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-10
		20-37	Loam, fine sandy loam, channery sandy loam, sandy clay loam	SC-SM, CL, SC, CL-ML	A-2-4, A-4, A-6	0	0-3	55-100	50-100	35-95
		37-60	Weathered bedrock	---	---	---	---	---	---	---
2002. Udorthents, earthen dams										
2003A. Riverwash										
2013. Pits, gravel										

Table 23.--Engineering Index Properties--Continued

Map symbol and soil name	Hydro-logic group	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
				Unified	AASHTO	>10 inches	3-10 inches	4	10	40
		In				Pct	Pct			
2014. Pits, quarry, hard bedrock										
2020. Urban land, valley trains										
2030: Udorthents, cut or fill.										
Udipsamments, cut or fill.										
2040. Udipsamments, dredge material										
2050. Landfill										
M-W. Miscellaneous water										
W. Water										

Table 24.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
20A:												
Palms-----------------	0-40	0-0	0.15-0.40	0.2-6	0.35-0.45	---	30-80	.02	.02	2	2	134
	40-60	10-30	1.45-1.75	0.2-2	0.12-0.22	3.0-5.9	1.0-4.0	.28	.28			
Houghton--------------	0-22	0-0	0.15-0.40	0.2-6	0.35-0.45	---	30-80	.02	.02	3	2	134
	22-28	0-0	0.15-0.30	0.6-6	0.45-0.55	---	60-85	.02	.02			
	28-60	0-0	0.15-0.40	0.2-6	0.35-0.45	---	30-80	.02	.02			
21A:												
Palms-----------------	0-40	0-0	0.15-0.40	0.2-6	0.35-0.45	---	30-80	---	---	2	2	134
	40-60	10-30	1.45-1.75	0.2-2	0.12-0.22	3.0-5.9	2.0-15	.28	.28			
30A:												
Adder-----------------	0-22	---	0.30-0.55	0.2-6	0.35-0.45	---	55-75	---	---	2	2	134
	22-60	1-8	1.55-1.75	6-60	0.03-0.08	0.0-2.9	0.0-1.0	.15	.15			
110D3:												
Timula----------------	0-9	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	0.5-1.0	.49	.49	3	5	56
	9-28	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.49	.49			
	28-60	6-14	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.55	.55			
110E2:												
Timula----------------	0-9	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.49	.49	4	5	56
	9-28	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.49	.49			
	28-60	6-14	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.55	.55			
114B2:												
Mt. Carroll-----------	0-9	10-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-4.0	.43	.43	5	5	56
	9-12	10-20	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43			
	12-46	12-27	1.40-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.43	.43			
	46-80	8-18	1.45-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43			
115C2:												
Seaton----------------	0-8	12-22	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.49	.49	5	5	56
	8-13	12-22	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	---	---			
	13-55	14-27	1.40-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	---	---			
	55-80	10-20	1.45-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
115D2:												
Seaton----------------	0-8	12-22	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.49	.49	5	5	56
	8-13	12-22	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	---	---			
	13-55	14-27	1.40-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	---	---			
	55-80	10-20	1.45-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
115E2:												
Seaton----------------	0-8	12-22	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.49	.49	5	5	56
	8-13	12-22	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	---	---			
	13-55	14-27	1.40-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	---	---			
	55-80	10-20	1.45-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
116C2:												
Churchtown------------	0-9	12-22	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-26	18-27	1.40-1.55	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	---	---			
	26-63	18-30	1.40-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
	63-80	10-20	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
116D2:												
Churchtown	0-9	12-22	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-26	18-27	1.40-1.55	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	---	---			
	26-63	18-30	1.40-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
	63-80	10-20	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
116E2:												
Churchtown	0-9	12-22	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-26	18-27	1.40-1.55	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	---	---			
	26-63	18-30	1.40-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
	63-80	10-20	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
126B:												
Barremills	0-27	12-22	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-5.0	.32	.32	5	5	56
	27-65	14-27	1.45-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.43	.43			
	65-80	10-20	1.45-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43			
132B2:												
Brinkman	0-9	14-22	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	9-71	18-28	1.40-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.43	.43			
	71-80	35-75	1.25-1.55	0.01-0.2	0.06-0.16	6.0-8.9	0.0-0.5	.15	.28			
132C2:												
Brinkman	0-9	14-22	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	9-71	18-28	1.40-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.43	.43			
	71-80	35-75	1.25-1.55	0.01-0.2	0.06-0.16	6.0-8.9	0.0-0.5	.15	.28			
133B2:												
Valton	0-9	10-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-22	18-35	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.43	.43			
	22-60	35-75	1.25-1.55	0.01-0.2	0.06-0.16	6.0-8.9	0.0-0.5	.15	.28			
133C2:												
Valton	0-9	10-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-22	18-35	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.43	.43			
	22-60	35-75	1.25-1.55	0.01-0.2	0.06-0.16	6.0-8.9	0.0-0.5	.15	.28			
133D2:												
Valton	0-9	10-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	9-22	18-35	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.43	.43			
	22-60	35-75	1.25-1.55	0.01-0.2	0.06-0.16	6.0-8.9	0.0-0.5	.15	.28			
134C2:												
Lamoille	0-9	12-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	9-13	12-27	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	13-27	35-75	1.25-1.55	0.01-0.2	0.06-0.16	6.0-8.9	0.0-0.5	.15	.28			
	27-37	25-45	1.30-1.50	0.2-0.6	0.07-0.16	3.0-5.9	0.0-0.5	.15	.28			
	37-60	8-27	1.40-1.50	0.6-6	0.06-0.12	0.0-2.9	0.0-0.5	.10	---			
134D2:												
Lamoille	0-9	12-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	9-13	12-27	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	13-27	35-75	1.25-1.55	0.01-0.2	0.06-0.16	6.0-8.9	0.0-0.5	.15	.28			
	27-37	25-45	1.30-1.50	0.2-0.6	0.07-0.16	3.0-5.9	0.0-0.5	.15	.28			
	37-60	8-27	1.40-1.50	0.6-6	0.06-0.12	0.0-2.9	0.0-0.5	.10	---			
163E2:												
Elbaville	0-8	10-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	4	5	56
	8-11	10-20	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	11-21	18-35	1.35-1.50	0.2-2	0.17-0.22	3.0-5.9	0.0-0.5	.43	.43			
	21-26	35-50	1.25-1.35	0.06-0.2	0.10-0.20	3.0-5.9	0.0-0.5	.32	.32			
	26-37	20-50	1.35-1.50	0.6-2	0.02-0.13	3.0-5.9	0.0-0.5	.24	---			
	37-60	5-18	1.40-1.65	0.6-20	0.01-0.09	0.0-2.9	0.0-0.5	.10	---			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
202C2:												
Lambeau---------------	0-9	12-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.49	.49	4	5	56
	9-42	18-29	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.49	.49			
	42-54	10-17	1.45-1.65	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	54-64	1-8	1.55-1.70	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.10	.15			
	64-80	---	---	0.2-2	---	---	---	---	---			
202D2:												
Lambeau---------------	0-9	12-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.49	.49	4	5	56
	9-42	18-29	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.49	.49			
	42-54	10-17	1.45-1.65	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	54-64	1-8	1.55-1.70	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.10	.15			
	64-80	---	---	0.2-2	---	---	---	---	---			
213D2:												
Hixton----------------	0-8	12-16	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	5	56
	8-20	14-27	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
	20-32	10-17	1.55-1.65	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	32-37	2-6	1.60-1.70	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.10	.15			
	37-60	---	---	0.2-2	---	---	---	---	---			
213E2:												
Hixton----------------	0-8	12-16	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	5	56
	8-20	14-27	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
	20-32	10-17	1.55-1.65	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	32-37	2-6	1.60-1.70	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.10	.15			
	37-60	---	---	0.2-2	---	---	---	---	---			
224B:												
Elevasil--------------	0-9	8-13	1.45-1.55	0.6-6	0.13-0.15	0.0-2.9	2.0-3.0	.24	.24	3	3	86
	9-27	10-17	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.0-0.5	---	---			
	27-31	2-10	1.50-1.70	2-20	0.06-0.11	0.0-2.9	0.0-0.5	---	---			
	31-39	1-8	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	---	---			
	39-60	---	---	0.2-2	---	---	---	---	---			
224C2:												
Elevasil--------------	0-9	8-13	1.45-1.55	0.6-6	0.13-0.15	0.0-2.9	2.0-3.0	.24	.24	3	3	86
	9-27	10-17	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.0-0.5	---	---			
	27-31	2-10	1.50-1.70	2-20	0.06-0.11	0.0-2.9	0.0-0.5	---	---			
	31-39	1-8	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	---	---			
	39-60	---	---	0.2-2	---	---	---	---	---			
224D2:												
Elevasil--------------	0-9	8-13	1.45-1.55	0.6-6	0.13-0.15	0.0-2.9	2.0-3.0	.24	.24	3	3	86
	9-27	10-17	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.0-0.5	---	---			
	27-31	2-10	1.50-1.70	2-20	0.06-0.11	0.0-2.9	0.0-0.5	---	---			
	31-39	1-8	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	---	---			
	39-60	---	---	0.2-2	---	---	---	---	---			
233C:												
Boone-----------------	0-8	2-3	1.50-1.65	6-20	0.07-0.09	0.0-2.9	0.5-1.0	.02	.02	3	1	220
	8-21	0-3	1.60-1.70	6-20	0.05-0.11	0.0-2.9	0.0-0.5	---	---			
	21-35	0-3	1.60-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	---	---			
	35-60	---	---	0.2-2	---	---	---	---	---			
253C2:												
Greenridge------------	0-9	12-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.49	.49	4	5	56
	9-50	18-28	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.49	.49			
	50-69	10-26	1.40-1.60	0.6-6	0.09-0.19	0.0-2.9	0.0-0.5	.24	.32			
	69-80	---	---	0.06-2	---	---	---	---	---			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
253D2:												
Greenridge------------	0-9	12-20	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.49	.49	4	5	56
	9-50	18-28	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.49	.49			
	50-69	10-26	1.40-1.60	0.6-6	0.09-0.19	0.0-2.9	0.0-0.5	.24	.32			
	69-80	---	---	0.06-2	---	---	---	---	---			
254C2:												
Norden----------------	0-8	12-16	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	5	56
	8-20	14-27	1.40-1.55	0.6-2	0.17-0.22	3.0-5.9	0.0-0.5	---	---			
	20-37	10-26	1.40-1.60	0.6-6	0.09-0.19	0.0-2.9	0.0-0.5	---	---			
	37-60	---	---	0.06-2	---	---	---	---	---			
254D2:												
Norden----------------	0-8	12-16	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	5	56
	8-20	14-27	1.40-1.55	0.6-2	0.17-0.22	3.0-5.9	0.0-0.5	---	---			
	20-37	10-26	1.40-1.60	0.6-6	0.09-0.19	0.0-2.9	0.0-0.5	---	---			
	37-60	---	---	0.06-2	---	---	---	---	---			
254E2:												
Norden----------------	0-8	12-16	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	5	56
	8-20	14-27	1.40-1.55	0.6-2	0.17-0.22	3.0-5.9	0.0-0.5	---	---			
	20-37	10-26	1.40-1.60	0.6-6	0.09-0.19	0.0-2.9	0.0-0.5	---	---			
	37-60	---	---	0.06-2	---	---	---	---	---			
296B:												
Ludington-------------	0-1	---	0.15-0.30	6-20	0.55-0.65	---	65-85	---	---	3	1	220
	1-4	2-4	1.35-1.55	2-20	0.04-0.09	0.0-2.9	1.0-5.0	.02	.02			
	4-11	1-6	1.35-1.65	2-20	0.06-0.10	0.0-2.9	0.5-1.0	.15	.15			
	11-16	2-8	1.45-1.65	2-20	0.06-0.10	0.0-2.9	1.0-2.0	.15	.15			
	16-33	2-8	1.50-1.65	2-20	0.06-0.10	0.0-2.9	0.0-0.5	.15	.15			
	33-39	10-35	1.45-1.70	0.2-2	0.10-0.19	3.0-5.9	0.0-0.5	.32	.32			
	39-60	---	---	0.1-0.6	---	---	---	---	---			
312B2:												
Festina---------------	0-7	16-22	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	7-12	16-22	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43			
	12-38	24-29	1.35-1.55	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.43	.43			
	38-68	22-26	1.40-1.60	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	.43	.43			
318A:												
Bearpen---------------	0-18	10-25	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-4.0	.32	.32	5	5	56
	18-41	18-30	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	---	---			
	41-50	10-30	1.55-1.70	0.6-2	0.11-0.18	0.0-2.9	0.0-0.5	---	---			
	50-60	10-30	1.55-1.70	0.6-2	0.11-0.18	0.0-2.9	0.0-0.5	---	---			
326B2:												
Medary----------------	0-7	15-25	1.30-1.50	0.2-2	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	3	5	56
	7-14	15-25	1.30-1.50	0.2-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37			
	14-30	35-60	1.35-1.60	0.06-0.2	0.09-0.20	6.0-8.9	0.0-0.5	.37	.37			
	30-60	20-60	1.35-1.70	0.06-0.2	0.08-0.22	6.0-8.9	0.0-0.5	.28	.28			
326F:												
Medary----------------	0-3	15-25	1.30-1.50	0.2-2	0.21-0.24	0.0-2.9	3.0-7.0	.37	.37	3	5	56
	3-14	15-25	1.30-1.60	0.2-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37			
	14-30	35-60	1.35-1.60	0.06-0.2	0.09-0.20	6.0-8.9	0.0-0.5	.37	.37			
	30-60	20-60	1.35-1.70	0.06-0.2	0.08-0.22	6.0-8.9	0.0-0.5	.28	.28			
336A:												
Toddville-------------	0-20	15-22	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-5.0	.32	.32	4	5	56
	20-41	18-30	1.45-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.37	.37			
	41-50	10-20	1.45-1.65	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.32	.32			
	50-60	1-4	1.55-1.65	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.20	.20			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
403A:												
Dakota----------------	0-10	12-22	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	2.0-5.0	.32	.32	4	5	56
	10-13	12-22	1.40-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-4.0	---	---			
	13-35	18-30	1.40-1.55	0.2-2	0.12-0.22	3.0-5.9	0.5-1.0	---	---			
	35-38	4-11	1.55-1.70	2-60	0.03-0.11	0.0-2.9	0.0-0.5	---	---			
	38-60	1-4	1.65-1.75	6-60	0.02-0.07	0.0-2.9	0.0-0.5	---	---			
413A:												
Rasset----------------	0-10	6-15	1.35-1.55	0.6-6	0.13-0.15	0.0-2.9	2.0-4.0	.20	.20	4	3	86
	10-18	6-15	1.35-1.55	0.6-6	0.13-0.18	0.0-2.9	2.0-4.0	---	---			
	18-30	10-22	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	1.0-2.0	---	---			
	30-50	2-10	1.55-1.70	6-20	0.06-0.11	0.0-2.9	0.5-1.0	---	---			
	50-60	1-5	1.65-1.75	6-60	0.02-0.07	0.0-2.9	0.0-0.5	---	---			
424B:												
Merit-----------------	0-9	12-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.32	.32	4	5	56
	9-12	18-27	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	12-30	18-27	1.50-1.65	0.6-2	0.10-0.20	3.0-5.9	0.0-0.5	.32	.32			
	30-60	1-6	1.55-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
424D2:												
Merit-----------------	0-9	12-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.32	.32	4	5	56
	9-12	18-27	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	12-30	18-27	1.50-1.65	0.6-2	0.10-0.20	3.0-5.9	0.0-0.5	.32	.32			
	30-60	1-6	1.55-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
424F:												
Merit-----------------	0-3	12-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	3.0-7.0	.32	.32	4	5	56
	3-12	18-27	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	12-30	18-27	1.50-1.65	0.6-2	0.10-0.20	3.0-5.9	0.0-0.5	.32	.32			
	30-60	1-6	1.55-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
433B:												
Forkhorn--------------	0-9	5-15	1.45-1.55	0.6-6	0.13-0.15	0.0-2.9	2.0-3.0	.20	.20	4	3	86
	9-25	6-18	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.5-1.0	---	---			
	25-32	3-10	1.50-1.70	6-60	0.02-0.07	0.0-2.9	0.0-0.5	---	---			
	32-72	1-8	1.65-1.75	6-60	0.01-0.07	0.0-2.9	0.0-0.5	---	---			
434B:												
Bilson----------------	0-8	5-15	1.45-1.55	0.6-6	0.14-0.16	0.0-2.9	2.0-3.0	.20	.20	4	3	86
	8-32	6-18	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.0-1.0	---	---			
	32-38	1-8	1.55-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	---	---			
	38-60	1-8	1.55-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.5	---	---			
434C2:												
Bilson----------------	0-8	5-15	1.45-1.55	0.6-6	0.14-0.16	0.0-2.9	2.0-3.0	.20	.20	4	3	86
	8-32	6-18	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
	32-38	1-8	1.55-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
	38-60	1-8	1.55-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
446A:												
Merimod---------------	0-9	12-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.32	.32	4	5	56
	9-17	18-27	1.40-1.55	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43			
	17-32	18-27	1.45-1.65	0.6-2	0.10-0.20	3.0-5.9	0.0-0.5	.32	.32			
	32-52	1-6	1.55-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
	52-60	1-6	1.55-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
456A:												
Bilmod----------------	0-9	5-15	1.45-1.55	0.6-6	0.14-0.16	0.0-2.9	2.0-3.0	.20	.20	4	3	86
	9-24	6-18	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.0-1.0	.20	.20			
	24-32	3-10	1.55-1.70	2-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
	32-46	1-5	1.55-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
	46-60	1-5	1.55-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
458A:												
Hoop	0-11	8-14	1.35-1.55	0.6-6	0.11-0.15	0.0-2.9	2.0-3.0	.20	.20	4	3	86
	11-24	10-17	1.45-1.65	0.6-6	0.10-0.17	0.0-2.9	0.0-1.0	.20	.20			
	24-34	2-10	1.55-1.70	6-20	0.03-0.11	0.0-2.9	0.0-0.5	.15	.15			
	34-60	1-8	1.60-1.70	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.15	.15			
483B2:												
Brice	0-9	3-8	1.45-1.55	6-20	0.10-0.12	0.0-2.9	0.5-1.0	.10	.10	5	2	134
	9-23	3-8	1.45-1.55	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.05	.05			
	23-35	6-15	1.50-1.65	2-6	0.10-0.17	0.0-2.9	0.0-0.5	.28	.28			
	35-42	3-8	1.55-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.05	.05			
	42-80	5-10	1.55-1.70	2-20	0.06-0.17	0.0-2.9	0.0-0.5	.05	.05			
501A:												
Finchford	0-15	5-10	1.50-1.65	6-20	0.10-0.12	0.0-2.9	1.0-3.0	.05	.05	5	2	134
	15-19	5-10	1.50-1.65	6-20	0.10-0.12	0.0-2.9	1.0-2.0	---	---			
	19-26	2-8	1.55-1.70	6-60	0.03-0.10	0.0-2.9	0.0-1.0	---	---			
	26-80	2-5	1.65-1.75	6-60	0.02-0.07	0.0-2.9	0.0-0.5	---	---			
502B2:												
Chelsea	0-9	3-8	1.50-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.05	.05	5	1	250
	9-30	5-10	1.50-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	---	---			
	30-80	5-10	1.55-1.70	2-20	0.06-0.17	0.0-2.9	0.0-0.5	---	---			
502C2:												
Chelsea	0-9	3-8	1.50-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.05	.05	5	1	250
	9-30	5-10	1.50-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	---	---			
	30-80	5-10	1.55-1.70	2-20	0.06-0.17	0.0-2.9	0.0-0.5	---	---			
511B:												
Plainfield	0-9	2-5	1.50-1.65	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	9-32	1-7	1.50-1.65	6-20	0.03-0.11	0.0-2.9	0.1-0.5	---	---			
	32-80	0-4	1.65-1.75	6-60	0.02-0.07	0.0-2.9	0.0-0.5	---	---			
511C:												
Plainfield	0-9	2-5	1.50-1.65	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	9-32	1-7	1.50-1.65	6-20	0.03-0.11	0.0-2.9	0.1-0.5	---	---			
	32-80	0-4	1.65-1.75	6-60	0.02-0.07	0.0-2.9	0.0-0.5	---	---			
511F:												
Plainfield	0-1	0-0	0.15-0.30	6-20	0.55-0.65	---	65-85	.02	.02	5	1	220
	1-4	2-5	1.50-1.65	6-20	0.07-0.09	0.0-2.9	2.0-5.0	.02	.02			
	4-32	1-7	1.50-1.65	6-20	0.03-0.11	0.0-2.9	0.1-0.5	---	---			
	32-80	0-4	1.65-1.75	6-60	0.02-0.07	0.0-2.9	0.0-0.5	---	---			
551A:												
Impact	0-8	3-5	1.35-1.65	6-20	0.08-0.10	0.0-2.9	1.0-3.0	.02	.02	5	1	220
	8-15	3-5	1.35-1.65	6-20	0.08-0.10	0.0-2.9	1.0-3.0	.02	.02			
	15-36	0-6	1.55-1.65	6-20	0.05-0.13	0.0-2.9	0.0-1.0	.15	.15			
	36-60	0-2	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
556A:												
Mindoro	0-9	3-5	1.35-1.65	6-20	0.08-0.10	0.0-2.9	1.0-3.0	.02	.02	5	1	220
	9-17	3-5	1.35-1.65	6-20	0.08-0.10	0.0-2.9	1.0-3.0	.02	.02			
	17-45	0-6	1.55-1.65	6-20	0.05-0.13	0.0-2.9	0.0-1.0	.02	.02			
	45-60	0-2	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.02	.02			
561B:												
Tarr	0-9	3-5	1.50-1.65	6-20	0.08-0.10	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	9-34	0-6	1.55-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	---	---			
	34-62	0-2	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	---	---			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
561C:												
Tarr------------------	0-9	3-5	1.50-1.65	6-20	0.08-0.10	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	9-34	0-6	1.55-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
	34-62	0-2	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
561F:												
Tarr------------------	0-2	---	0.15-0.30	6-20	0.55-0.65	---	65-85	---	---	5	1	220
	2-6	3-5	1.50-1.65	6-20	0.08-0.10	0.0-2.9	2.0-5.0	.02	.02			
	6-34	0-6	1.55-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
	34-62	0-2	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
562B:												
Gosil-----------------	0-9	2-4	1.50-1.65	6-20	0.09-0.12	0.0-2.9	0.5-2.0	.10	.10	5	2	134
	9-23	5-10	1.55-1.70	2-20	0.09-0.13	0.0-2.9	0.0-0.5	.17	.17			
	23-27	3-5	1.55-1.70	6-20	0.05-0.11	0.0-2.9	0.0-0.5	.15	.15			
	27-60	1-3	1.55-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
562C:												
Gosil-----------------	0-9	2-4	1.50-1.65	6-20	0.09-0.12	0.0-2.9	0.5-2.0	.10	.10	5	2	134
	9-23	5-10	1.55-1.70	2-20	0.09-0.13	0.0-2.9	0.0-0.5	.17	.17			
	23-27	3-5	1.55-1.70	6-20	0.05-0.11	0.0-2.9	0.0-0.5	.15	.15			
	27-60	1-3	1.55-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
566A:												
Tint------------------	0-9	4-8	1.50-1.65	6-20	0.06-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	9-34	0-5	1.55-1.70	6-20	0.05-0.08	0.0-2.9	0.0-0.5	---	---			
	34-60	0-5	1.60-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	---	---			
568A:												
Majik-----------------	0-4	4-10	1.35-1.65	2-20	0.09-0.12	0.0-2.9	2.0-5.0	.15	.15	5	2	134
	4-7	4-10	1.35-1.65	6-20	0.06-0.12	0.0-2.9	0.0-0.5	.15	.15			
	7-29	2-8	1.55-1.65	6-20	0.05-0.11	0.0-2.9	0.0-0.5	.17	.17			
	29-60	1-5	1.60-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
569A:												
Newlang---------------	0-3	---	0.30-0.50	0.2-6	0.35-0.45	---	20-70	---	---	5	2	134
	3-6	4-10	1.35-1.65	6-20	0.06-0.18	0.0-2.9	5.0-20	.05	.05			
	6-22	5-10	1.50-1.70	6-20	0.06-0.11	0.0-2.9	0.0-1.0	.02	.02			
	22-63	3-5	1.60-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.02	.02			
576B:												
Tintson---------------	0-8	5-10	1.35-1.65	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	8-46	0-5	1.55-1.65	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.15	.15			
	46-60	3-20	1.45-1.60	0.6-2	0.13-0.22	0.0-2.9	0.0-0.5	.32	.32			
601C:												
Beavercreek-----------	0-5	5-18	1.35-1.55	2-6	0.12-0.18	0.0-2.9	1.0-2.0	.24	.28	5	4	86
	5-12	5-18	1.45-1.65	2-6	0.10-0.18	0.0-2.9	0.5-1.0	---	---			
	12-60	5-18	1.45-1.65	2-6	0.04-0.15	0.0-2.9	0.0-0.5	---	---			
606A:												
Huntsville------------	0-12	18-27	1.25-1.55	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48
	12-50	18-27	1.35-1.55	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.37	.37			
	50-60	15-25	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.2-1.0	.37	.37			
608A:												
Lawson----------------	0-30	10-27	1.25-1.55	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.32	.32	5	5	56
	30-60	18-30	1.55-1.65	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
609A:												
Otter-----------------	0-25	10-27	1.10-1.25	0.6-2	0.22-0.24	0.0-2.9	5.0-10	.32	.32	5	6	48
	25-60	18-28	1.40-1.60	0.6-2	0.17-0.22	3.0-5.9	0.5-2.0	.37	.37			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
625A:												
Arenzville------------	0-10	8-18	1.20-1.55	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	10-25	8-18	1.20-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	25-40	8-30	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	2.0-7.0	.37	.37			
	40-60	8-18	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
626A:												
Arenzville------------	0-10	8-18	1.20-1.55	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	10-25	8-18	1.20-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
	25-40	8-30	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	2.0-7.0	---	---			
	40-60	8-18	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	---	---			
628A:												
Orion-----------------	0-8	8-18	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	8-32	8-18	1.20-1.55	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	---	---			
	32-40	8-30	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	3.0-8.0	---	---			
	40-60	8-18	1.20-1.40	0.6-2	0.18-0.22	0.0-2.9	0.0-0.5	---	---			
629A:												
Ettrick---------------	0-16	15-27	1.25-1.35	0.6-2	0.22-0.29	0.0-2.9	4.0-12	.32	.32	5	6	48
	16-35	20-35	1.30-1.45	0.2-0.6	0.18-0.29	3.0-5.9	0.5-2.0	---	---			
	35-60	8-27	1.30-1.50	0.06-0.2	0.20-0.25	0.0-2.9	0.0-1.0	---	---			
656A:												
Scotah----------------	0-4	2-15	1.50-1.65	2-20	0.10-0.12	0.0-2.9	0.5-3.0	.10	.10	5	2	134
	4-22	1-10	1.55-1.70	2-20	0.06-0.11	0.0-2.9	0.5-1.0	---	---			
	22-60	1-8	1.55-1.70	2-60	0.02-0.10	0.0-2.9	0.0-0.5	---	---			
666A:												
Absco-----------------	0-4	4-15	1.30-1.60	6-20	0.10-0.12	0.0-2.9	0.5-2.0	.10	.10	5	2	134
	4-14	0-10	1.45-1.65	6-20	0.05-0.11	0.0-2.9	0.5-1.0	.17	.17			
	14-60	0-10	1.55-1.70	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.15	.15			
676A:												
Kickapoo--------------	0-5	8-16	1.20-1.55	0.6-6	0.16-0.18	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	5-36	4-18	1.50-1.60	0.6-6	0.12-0.16	0.0-2.9	1.0-2.0	.15	.24			
	36-41	12-18	1.55-1.65	0.6-2	0.12-0.22	0.0-2.9	1.0-3.0	.24	.24			
	41-60	12-18	1.55-1.65	0.6-2	0.10-0.16	0.0-2.9	0.0-0.5	.15	.24			
739A:												
Root------------------	0-7	5-18	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.17	.28	4	5	56
	7-21	5-18	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.17	.28			
	21-60	5-18	1.40-1.60	6-20	0.06-0.12	0.0-2.9	0.0-1.0	.10	---			
743C2:												
Council---------------	0-7	6-10	1.35-1.60	0.6-2	0.17-0.24	0.0-2.9	1.0-2.0	.32	.32	5	3	56
	7-45	10-18	1.50-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.37	.37			
	45-60	8-18	1.45-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.43	.43			
743D2:												
Council---------------	0-7	6-10	1.35-1.60	0.6-2	0.17-0.24	0.0-2.9	1.0-2.0	.32	.32	5	3	56
	7-45	10-18	1.50-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.37	.37			
	45-60	8-18	1.45-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.43	.43			
743E2:												
Council---------------	0-7	6-10	1.35-1.60	0.6-2	0.17-0.24	0.0-2.9	1.0-2.0	.32	.32	5	3	56
	7-45	10-18	1.50-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.37	.37			
	45-60	8-18	1.45-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.43	.43			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
1125F:												
Dorerton--------------	0-3	10-18	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	3.0-7.0	.32	.32	3	5	56
	3-15	5-15	1.35-1.55	0.6-6	0.12-0.22	0.0-2.9	0.5-1.0	---	---			
	15-18	18-35	1.40-1.55	0.2-2	0.15-0.22	3.0-5.9	0.5-1.0	---	---			
	18-30	20-35	1.25-1.55	0.2-2	0.02-0.12	3.0-5.9	0.0-0.5	---	---			
	30-60	2-25	1.60-1.70	0.6-20	0.01-0.09	0.0-2.9	0.0-0.5	---	---			
Elbaville-------------	0-1	0-0	0.15-0.30	6-20	0.55-0.65	---	65-85	.02	.02	4	5	56
	1-5	10-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.37	.37			
	5-11	10-20	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	---	---			
	11-21	18-35	1.50-1.65	0.2-2	0.17-0.22	3.0-5.9	0.0-0.5	---	---			
	21-26	35-50	1.25-1.35	0.06-0.2	0.10-0.20	3.0-5.9	0.0-0.5	---	---			
	26-37	20-50	1.35-1.50	0.6-2	0.02-0.13	3.0-5.9	0.0-0.5	---	---			
	37-60	5-18	1.40-1.65	0.6-20	0.01-0.09	0.0-2.9	0.0-0.5	---	---			
1145F:												
Gaphill---------------	0-2	0-0	0.15-0.30	6-20	0.55-0.65	---	65-85	.02	.02	4	3	86
	2-5	8-15	1.45-1.55	0.6-6	0.10-0.15	0.0-2.9	4.0-8.0	.24	.24			
	5-11	5-12	1.45-1.65	0.6-6	0.09-0.19	0.0-2.9	0.0-1.0	---	---			
	11-32	8-17	1.45-1.65	0.6-6	0.09-0.19	0.0-2.9	0.0-0.5	---	---			
	32-50	2-8	1.60-1.70	6-20	0.03-0.10	0.0-2.9	0.0-0.5	---	---			
	50-56	1-6	1.60-1.70	6-20	0.03-0.06	0.0-2.9	0.0-0.5	---	---			
	56-80	---	---	0.2-2	---	---	---	---	---			
Rockbluff-------------	0-2	0-0	0.15-0.30	6-20	0.55-0.65	---	65-85	.02	.02	4	2	134
	2-4	2-6	1.50-1.65	6-20	0.10-0.12	0.0-2.9	4.0-8.0	.10	.10			
	4-9	1-5	1.55-1.70	6-20	0.07-0.12	0.0-2.9	0.0-1.0	---	---			
	9-35	1-5	1.55-1.70	6-20	0.02-0.11	0.0-2.9	0.0-0.5	---	---			
	35-52	0-3	1.60-1.70	6-20	0.02-0.08	0.0-2.9	0.0-0.5	---	---			
	52-80	---	---	0.2-2	---	---	---	---	---			
1155F:												
Brodale---------------	0-6	5-18	1.15-1.30	0.6-2	0.06-0.12	0.0-2.9	3.0-7.0	.20	.28	3	5	56
	6-50	5-18	1.20-1.35	0.6-6	0.04-0.09	0.0-2.9	0.0-1.0	.05	---			
	50-80	---	---	0.06-0.6	---	---	---	---	---			
Bellechester----------	0-7	1-3	1.45-1.60	6-20	0.06-0.09	0.0-2.9	1.0-4.0	.02	.02	4	1	220
	7-23	1-7	1.45-1.60	6-20	0.06-0.09	0.0-2.9	1.0-4.0	.02	.02			
	23-42	2-8	1.50-1.65	6-20	0.04-0.08	0.0-2.9	0.0-1.0	.05	.15			
	42-80	---	---	0.2-2	---	---	---	---	---			
Rock outcrop----------	0-80	---	---	0.06-0.6	0.00-0.00	0.0-2.9	---	---	---	-	---	---
1233F:												
Boone-----------------	0-1	0-0	0.15-0.30	6-20	0.55-0.65	---	65-85	.02	.02	3	1	220
	1-3	2-3	1.50-1.65	6-20	0.07-0.09	0.0-2.9	3.0-7.0	.02	.02			
	3-21	0-3	1.55-1.70	6-20	0.05-0.11	0.0-2.9	0.0-0.5	---	---			
	21-35	0-3	1.60-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	---	---			
	35-60	---	---	0.2-2	---	---	---	---	---			
Tarr------------------	0-2	0-0	0.15-0.30	6-20	0.55-0.65	---	65-85	.02	.02	5	1	220
	2-6	3-5	1.50-1.65	6-20	0.08-0.10	0.0-2.9	2.0-5.0	.02	.02			
	6-34	0-6	1.55-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	---	---			
	34-62	0-2	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	---	---			
1658A:												
Algansee--------------	0-4	5-15	1.35-1.55	2-6	0.16-0.18	0.0-2.9	3.0-7.0	.24	.24	5	3	86
	4-31	0-15	1.55-1.70	6-20	0.06-0.11	0.0-2.9	0.0-0.5	---	---			
	31-60	0-10	1.65-1.75	6-60	0.02-0.10	0.0-2.9	0.0-0.5	---	---			

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
1658A:												
Kalmarville-----------	0-6	10-23	1.30-1.55	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.32	.32	4	5	56
	6-37	5-20	1.30-1.55	0.6-6	0.13-0.22	0.0-2.9	1.0-5.0	---	---			
	37-42	5-20	1.55-1.70	0.6-6	0.13-0.18	0.0-2.9	0.0-1.0	---	---			
	42-60	2-5	1.65-1.75	6-60	0.03-0.07	0.0-2.9	0.0-0.5	---	---			
1743F:												
Council---------------	0-1	---	0.15-0.30	6-20	0.55-0.65	---	65-85	.32	.32	5	5	56
	1-3	6-10	1.35-1.60	0.6-2	0.17-0.24	0.0-2.9	3.0-7.0	.32	.32			
	3-45	10-18	1.45-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.37	.37			
	45-60	8-18	1.45-1.65	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.43	.43			
Elevasil--------------	0-1	---	0.15-0.30	6-20	0.55-0.65	---	65-85	.24	.24	3	3	86
	1-3	8-13	1.40-1.60	0.6-6	0.13-0.15	0.0-2.9	3.0-7.0	.24	.24			
	3-27	10-17	1.45-1.65	0.6-6	0.12-0.19	0.0-2.9	0.0-0.5	.24	.24			
	27-31	2-10	1.50-1.70	2-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
	31-39	1-8	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.10	.15			
	39-60	---	---	0.2-2	---	---	---	---	---			
Norden----------------	0-1	---	0.15-0.30	6-20	0.55-0.65	---	65-85	.37	.37	3	5	56
	1-3	12-16	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.37	.37			
	3-20	14-27	1.40-1.55	0.6-2	0.17-0.22	3.0-5.9	0.0-0.5	.43	.43			
	20-37	10-26	1.40-1.60	0.6-6	0.09-0.19	0.0-2.9	0.0-0.5	.24	.32			
	37-60	---	---	0.06-2	---	---	---	---	---			
2002. Udorthents, earthen dams												
2003A. Riverwash												
2013. Pits, gravel												
2014. Pits, quarry, hard bedrock												
2020. Urban land, valley trains												
2030:												
Udorthents, cut or fill.												
Udipsamments, cut or fill.												
2040. Udipsamments, dredge material												
2050. Landfill												

Table 24.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
M-W. Miscellaneous water												
W. Water												

Table 25.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
20A:					
Palms----------------	0-40	110-230	---	5.1-7.3	0
	40-60	10-50	---	6.1-8.4	0-20
Houghton-------------	0-22	110-230	---	5.1-7.3	0
	22-28	110-230	---	5.1-7.3	0
	28-60	110-230	---	5.1-7.3	0
21A:					
Palms----------------	0-40	110-230	---	5.1-7.3	0
	40-60	10-50	---	6.1-8.4	0-20
30A:					
Adder----------------	0-22	150-200	---	5.1-7.3	0
	22-60	1.0-3.0	---	5.6-7.3	0
110D3:					
Timula---------------	0-9	8.0-15	---	6.1-7.8	0
	9-28	7.0-14	---	6.1-7.8	0
	28-60	4.0-11	---	7.4-8.4	5-35
110E2:					
Timula---------------	0-9	9.0-17	---	6.1-7.8	0
	9-28	7.0-14	---	6.1-7.8	0
	28-60	4.0-11	---	7.4-8.4	5-35
114B2:					
Mt. Carroll----------	0-9	15-24	---	5.6-7.3	0
	9-12	11-17	---	5.6-7.3	0
	12-46	10-25	---	5.1-7.3	0
	46-80	10-15	---	5.1-8.4	0-15
115C2:					
Seaton---------------	0-8	10-18	---	5.6-7.3	0
	8-13	9.0-17	---	5.6-7.3	0
	13-55	10-25	---	5.1-7.3	0
	55-80	10-15	---	5.1-8.4	0-15
115D2:					
Seaton---------------	0-8	10-18	---	5.6-7.3	0
	8-13	9.0-17	---	5.6-7.3	0
	13-55	10-25	---	5.1-7.3	0
	55-80	10-15	---	5.1-8.4	0-15
115E2:					
Seaton---------------	0-8	10-18	---	5.6-7.3	0
	8-13	9.0-17	---	5.6-7.3	0
	13-55	10-25	---	5.1-7.3	0
	55-80	10-15	---	5.1-8.4	0-15
116C2:					
Churchtown-----------	0-9	15-25	---	5.1-7.3	0
	9-26	15-25	---	5.1-7.3	0
	26-63	15-25	---	5.1-7.3	0
	63-80	10-15	---	5.6-8.4	0-15

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
116D2:					
Churchtown	0-9	15-25	---	5.1-7.3	0
	9-26	15-25	---	5.1-7.3	0
	26-63	15-25	---	5.1-7.3	0
	63-80	10-15	---	5.6-8.4	0-15
116E2:					
Churchtown	0-9	15-25	---	5.1-7.3	0
	9-26	15-25	---	5.1-7.3	0
	26-63	15-25	---	5.1-7.3	0
	63-80	10-15	---	5.6-8.4	0-15
126B:					
Barremills	0-27	10-25	---	5.6-7.3	0
	27-65	10-20	---	5.1-7.3	0
	65-80	7.0-15	---	5.1-7.3	0
132B2:					
Brinkman	0-9	10-20	---	5.1-7.3	0
	9-71	10-25	---	5.1-7.3	0
	71-80	25-50	---	4.5-6.5	0
132C2:					
Brinkman	0-9	10-20	---	5.1-7.3	0
	9-71	10-25	---	5.1-7.3	0
	71-80	25-50	---	4.5-6.5	0
133B2:					
Valton	0-9	10-20	---	5.1-7.3	0
	9-22	15-25	---	5.1-7.3	0
	22-60	25-50	---	4.5-6.5	0
133C2:					
Valton	0-9	10-20	---	5.1-7.3	0
	9-22	15-25	---	5.1-7.3	0
	22-60	25-50	---	4.5-6.5	0
133D2:					
Valton	0-9	10-20	---	5.1-7.3	0
	9-22	15-25	---	5.1-7.3	0
	22-60	25-50	---	4.5-6.5	0
134C2:					
Lamoille	0-9	10-20	---	6.1-7.3	0
	9-13	10-20	---	6.1-7.3	0
	13-27	25-50	---	5.1-6.0	0
	27-37	20-40	---	5.6-7.3	0
	37-60	5.0-20	---	7.4-8.4	0-10
134D2:					
Lamoille	0-9	10-20	---	6.1-7.3	0
	9-13	10-20	---	6.1-7.3	0
	13-27	25-50	---	5.1-6.0	0
	27-37	20-40	---	5.6-7.3	0
	37-60	5.0-20	---	7.4-8.4	0-10

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
163E2:					
Elbaville------------	0-8	9.0-25	---	5.1-7.3	0
	8-11	8.0-16	---	5.1-7.3	0
	11-21	13-26	---	5.1-7.3	0
	21-26	25-36	---	5.1-7.3	0
	26-37	10-26	---	6.6-7.8	0-5
	37-60	3.0-10	---	6.6-7.8	0-10
202C2:					
Lambeau--------------	0-9	10-20	---	6.1-7.3	0
	9-42	10-25	---	5.1-6.5	0
	42-54	5.0-10	---	4.5-6.5	0
	54-64	0.0-5.0	---	4.5-6.5	0
	64-80	---	---	---	---
202D2:					
Lambeau--------------	0-9	10-20	---	6.1-7.3	0
	9-42	10-25	---	5.1-6.5	0
	42-54	5.0-10	---	4.5-6.5	0
	54-64	0.0-5.0	---	4.5-6.5	0
	64-80	---	---	---	---
213D2:					
Hixton---------------	0-8	10-15	---	5.1-7.3	0
	8-20	10-20	---	5.1-6.5	0
	20-32	5.0-10	---	5.1-6.5	0
	32-37	0.0-6.0	---	4.5-6.5	0
	37-60	---	---	---	---
213E2:					
Hixton---------------	0-8	10-15	---	5.1-7.3	0
	8-20	10-20	---	5.1-6.5	0
	20-32	5.0-10	---	5.1-6.5	0
	32-37	0.0-6.0	---	4.5-6.5	0
	37-60	---	---	---	---
224B:					
Elevasil-------------	0-9	6.0-17	---	4.5-7.3	0
	9-27	2.0-15	---	4.5-6.5	0
	27-31	1.0-9.0	---	4.5-6.5	0
	31-39	0.0-7.0	---	4.5-6.5	0
	39-60	---	---	---	0
224C2:					
Elevasil-------------	0-9	6.0-17	---	4.5-7.3	0
	9-27	2.0-15	---	4.5-6.5	0
	27-31	1.0-9.0	---	4.5-6.5	0
	31-39	0.0-7.0	---	4.5-6.5	0
	39-60	---	---	---	0
224D2:					
Elevasil-------------	0-9	6.0-17	---	4.5-7.3	0
	9-27	2.0-15	---	4.5-6.5	0
	27-31	1.0-9.0	---	4.5-6.5	0
	31-39	0.0-7.0	---	4.5-6.5	0
	39-60	---	---	---	0

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
233C:					
Boone----------------	0-8	2.0-6.0	---	4.5-7.3	0
	8-21	0.0-3.0	---	4.5-6.5	0
	21-35	0.0-3.0	---	4.5-6.5	0
	35-60	---	---	---	0
253C2:					
Greenridge-----------	0-9	10-20	---	5.1-7.3	0
	9-50	10-25	---	5.1-6.5	0
	50-69	---	2.0-15	4.5-6.0	0
	69-80	---	---	---	---
253D2:					
Greenridge-----------	0-9	10-20	---	5.1-7.3	0
	9-50	10-25	---	5.1-6.5	0
	50-69	---	2.0-15	4.5-6.0	0
	69-80	---	---	---	---
254C2:					
Norden---------------	0-8	10-15	---	5.1-7.3	0
	8-20	10-20	---	5.1-7.3	0
	20-37	---	2.0-15	4.5-6.0	0
	37-60	---	---	---	---
254D2:					
Norden---------------	0-8	10-15	---	5.1-7.3	0
	8-20	10-20	---	5.1-7.3	0
	20-37	---	2.0-15	4.5-6.0	0
	37-60	---	---	---	---
254E2:					
Norden---------------	0-8	10-15	---	5.1-7.3	0
	8-20	10-20	---	5.1-7.3	0
	20-37	---	2.0-15	4.5-6.0	0
	37-60	---	---	---	---
296B:					
Ludington------------	0-1	---	80-120	3.5-6.0	---
	1-4	---	2.0-7.0	3.5-6.5	0
	4-11	---	1.0-7.0	3.5-6.0	0
	11-16	---	2.0-10	3.5-6.0	0
	16-33	---	0.0-7.0	3.5-6.0	0
	33-39	---	2.0-30	3.5-5.5	0
	39-60	---	---	---	---
312B2:					
Festina--------------	0-7	10-25	---	5.6-7.3	0
	7-12	10-20	---	5.6-7.3	0
	12-38	20-25	---	5.1-6.0	0
	38-68	15-20	---	5.1-6.5	0
318A:					
Bearpen--------------	0-18	8.0-30	---	5.1-7.3	0
	18-41	10-25	---	5.1-7.3	0
	41-50	5.0-20	---	5.1-7.3	0
	50-60	5.0-15	---	5.1-8.4	0-15

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
326B2:					
Medary	0-7	10-25	---	5.1-7.3	0
	7-14	10-20	---	5.1-6.5	0
	14-30	20-50	---	5.1-6.5	0
	30-60	10-50	---	5.1-7.8	0-15
326F:					
Medary	0-3	15-30	---	5.1-6.5	0
	3-14	10-20	---	5.1-6.5	0
	14-30	20-50	---	5.1-6.5	0
	30-60	10-50	---	5.1-7.8	0-15
336A:					
Toddville	0-20	15-25	---	5.6-7.3	0
	20-41	15-25	---	5.1-7.3	0
	41-50	5.0-15	---	5.1-7.3	0
	50-60	1.0-5.0	---	5.6-7.3	0
403A:					
Dakota	0-10	10-25	---	5.1-7.3	0
	10-13	10-25	---	5.1-7.3	0
	13-35	10-25	---	5.1-7.3	0
	35-38	1.0-10	---	5.1-6.5	0
	38-60	0.0-4.0	---	5.1-6.5	0
413A:					
Rasset	0-10	8.0-15	---	5.1-7.3	0
	10-18	8.0-15	---	5.1-7.3	0
	18-30	7.0-13	---	5.1-7.3	0
	30-50	2.0-7.0	---	5.1-6.5	0
	50-60	1.0-3.0	---	5.1-6.5	0
424B:					
Merit	0-9	10-20	---	4.5-7.3	0
	9-12	10-20	---	4.5-6.5	0
	12-30	5.0-20	---	4.5-6.5	0
	30-60	1.0-6.0	---	4.5-6.5	0
424D2:					
Merit	0-9	10-20	---	4.5-7.3	0
	9-12	10-20	---	4.5-6.5	0
	12-30	5.0-20	---	4.5-6.5	0
	30-60	1.0-6.0	---	4.5-6.5	0
424F:					
Merit	0-3	10-25	---	4.5-6.5	0
	3-12	10-20	---	4.5-6.5	0
	12-30	5.0-20	---	4.5-6.5	0
	30-60	1.0-6.0	---	4.5-6.5	0
433B:					
Forkhorn	0-9	5.0-20	---	5.1-7.3	0
	9-25	2.0-15	---	5.1-7.3	0
	25-32	0.0-7.0	---	5.1-6.5	0
	32-72	0.0-7.0	---	5.1-6.5	0
434B:					
Bilson	0-8	5.0-15	---	5.1-7.3	0
	8-32	4.0-13	---	5.1-6.5	0
	32-38	1.0-7.0	---	4.5-6.5	0
	38-60	1.0-7.0	---	4.5-6.5	0

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
434C2:					
Bilson	0-8	5.0-15	---	5.1-7.3	0
	8-32	4.0-13	---	5.1-6.5	0
	32-38	1.0-7.0	---	4.5-6.5	0
	38-60	1.0-7.0	---	4.5-6.5	0
446A:					
Merimod	0-9	10-20	---	4.5-7.3	0
	9-17	10-20	---	4.5-6.5	0
	17-32	5.0-20	---	4.5-6.5	0
	32-52	0.0-6.0	---	4.5-6.5	0
	52-60	1.0-6.0	---	4.5-6.5	0
456A:					
Bilmod	0-9	5.0-15	---	4.5-7.3	0
	9-24	4.0-15	---	4.5-6.5	0
	24-32	1.0-8.0	---	4.5-6.5	0
	32-46	0.0-4.0	---	4.5-6.5	0
	46-60	1.0-5.0	---	4.5-6.5	0
458A:					
Hoop	0-11	6.0-15	---	4.5-7.3	0
	11-24	2.0-15	---	4.5-6.5	0
	24-34	1.0-9.0	---	5.1-6.5	0
	34-60	0.0-7.0	---	5.1-6.5	0
483B2:					
Brice	0-9	5.0-10	---	5.1-7.3	0
	9-23	3.0-7.0	---	5.6-7.3	0
	23-35	5.0-15	---	5.6-6.5	0
	35-42	3.0-7.0	---	5.6-6.5	0
	42-80	3.0-10	---	5.6-7.3	0
501A:					
Finchford	0-15	5.0-10	---	5.1-7.3	0
	15-19	5.0-10	---	5.1-7.3	0
	19-26	1.0-7.0	---	5.1-7.3	0
	26-80	1.0-5.0	---	5.1-7.3	0
502B2:					
Chelsea	0-9	3.0-10	---	5.1-7.3	0
	9-30	3.0-10	---	5.1-6.5	0
	30-80	3.0-10	---	5.1-6.5	0
502C2:					
Chelsea	0-9	3.0-10	---	5.1-7.3	0
	9-30	3.0-10	---	5.1-6.5	0
	30-80	3.0-10	---	5.1-6.5	0
511B:					
Plainfield	0-9	1.0-8.0	---	5.1-7.3	0
	9-32	0.0-7.0	---	5.1-6.5	0
	32-80	0.0-1.0	---	5.1-6.5	0
511C:					
Plainfield	0-9	1.0-8.0	---	5.1-7.3	0
	9-32	0.0-7.0	---	5.1-6.5	0
	32-80	0.0-1.0	---	5.1-6.5	0

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
511F:					
Plainfield-----------	0-1	---	80-120	3.5-6.0	---
	1-4	5.0-15	---	5.1-6.5	0
	4-32	0.0-7.0	---	5.1-6.5	0
	32-80	0.0-1.0	---	5.1-6.5	0
551A:					
Impact---------------	0-8	5.0-10	---	5.1-7.3	0
	8-15	5.0-10	---	5.1-7.3	0
	15-36	1.0-7.0	---	4.5-6.5	0
	36-60	0.0-5.0	---	5.1-6.5	0
556A:					
Mindoro--------------	0-9	5.0-10	---	5.1-7.3	0
	9-17	5.0-10	---	5.1-7.3	0
	17-45	1.0-7.0	---	5.1-6.5	0
	45-60	0.0-5.0	---	5.6-7.3	0
561B:					
Tarr-----------------	0-9	2.0-8.0	---	4.5-7.3	0
	9-34	1.0-7.0	---	4.5-6.5	0
	34-62	0.0-5.0	---	4.5-6.5	0
561C:					
Tarr-----------------	0-9	2.0-8.0	---	4.5-7.3	0
	9-34	1.0-7.0	---	4.5-6.5	0
	34-62	0.0-5.0	---	4.5-6.5	0
561F:					
Tarr-----------------	0-2	---	80-120	3.5-6.5	---
	2-6	5.0-15	---	4.5-6.5	0
	6-34	1.0-7.0	---	4.5-6.5	0
	34-62	0.0-5.0	---	4.5-6.5	0
562B:					
Gosil----------------	0-9	2.0-7.0	---	4.5-7.3	0
	9-23	2.0-9.0	---	5.1-6.5	0
	23-27	1.0-5.0	---	5.1-6.5	0
	27-60	0.0-3.0	---	5.1-6.5	0
562C:					
Gosil----------------	0-9	2.0-7.0	---	4.5-7.3	0
	9-23	2.0-9.0	---	5.1-6.5	0
	23-27	1.0-5.0	---	5.1-6.5	0
	27-60	0.0-3.0	---	5.1-6.5	0
566A:					
Tint-----------------	0-9	2.0-10	---	4.5-7.3	0
	9-34	0.0-5.0	---	4.5-6.5	0
	34-60	0.0-5.0	---	5.1-6.5	0
568A:					
Majik----------------	0-4	2.0-15	---	4.5-7.3	0
	4-7	1.0-9.0	---	4.5-7.3	0
	7-29	---	0.0-7.0	4.5-6.0	0
	29-60	0.0-4.0	---	5.6-7.3	0

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
569A:					
Newlang	0-3	---	40-140	3.5-6.0	0
	3-6	---	10-50	3.5-6.0	0
	6-22	1.0-10	---	5.6-7.3	0
	22-63	1.0-5.0	---	5.6-7.3	0
576B:					
Tintson	0-8	2.0-10	---	4.5-7.3	0
	8-46	---	0.0-5.0	4.5-6.0	0
	46-60	---	1.0-15	4.5-6.0	0
601C:					
Beavercreek	0-5	5.0-15	---	6.1-7.3	0
	5-12	5.0-15	---	6.1-7.3	0
	12-60	3.0-10	---	6.6-7.8	0-5
606A:					
Huntsville	0-12	17-24	---	6.1-7.3	0
	12-50	17-24	---	6.1-7.3	0
	50-60	9.0-17	---	6.1-7.8	0-5
608A:					
Lawson	0-30	11-30	---	6.1-7.8	0
	30-60	11-23	---	6.1-7.8	0-5
609A:					
Otter	0-25	11-30	---	6.1-7.8	0
	25-60	11-23	---	6.1-7.8	0-5
625A:					
Arenzville	0-10	7.0-20	---	5.6-7.3	0
	10-25	7.0-20	---	5.6-7.3	0
	25-40	10-35	---	5.6-7.3	0
	40-60	5.0-15	---	5.6-7.3	0
626A:					
Arenzville	0-10	7.0-20	---	5.6-7.3	0
	10-25	7.0-20	---	5.6-7.3	0
	25-40	10-35	---	5.6-7.3	0
	40-60	5.0-15	---	5.6-7.3	0
628A:					
Orion	0-8	7.0-20	---	5.6-7.3	0
	8-32	7.0-20	---	5.6-7.3	0
	32-40	10-35	---	5.6-7.3	0
	40-60	5.0-15	---	5.6-7.3	0
629A:					
Ettrick	0-16	10-45	---	5.6-7.3	0
	16-35	10-30	---	6.1-7.3	0
	35-60	2.0-25	---	6.1-7.3	0
656A:					
Scotah	0-4	3.0-15	---	5.6-7.3	0
	4-22	4.0-8.0	---	5.6-7.3	0
	22-60	1.0-5.0	---	5.6-7.3	0
666A:					
Absco	0-4	3.0-15	---	4.5-7.3	0
	4-14	4.0-8.0	---	4.5-7.3	0
	14-60	1.0-5.0	---	4.5-7.3	0

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
676A:					
Kickapoo	0-5	5.0-20	---	5.1-7.3	0
	5-36	5.0-20	---	5.1-7.3	0
	36-41	10-30	---	5.1-7.3	0
	41-60	5.0-15	---	5.1-7.3	0
739A:					
Root	0-7	5.0-20	---	6.6-7.8	0-5
	7-21	5.0-20	---	6.6-7.8	0-5
	21-60	5.0-15	---	7.4-7.8	1-15
743C2:					
Council	0-7	5.0-15	---	4.5-7.3	0
	7-45	5.0-15	---	4.5-6.5	0
	45-60	5.0-15	---	5.1-7.3	0
743D2:					
Council	0-7	5.0-15	---	4.5-7.3	0
	7-45	5.0-15	---	4.5-6.5	0
	45-60	5.0-15	---	5.1-7.3	0
743E2:					
Council	0-7	5.0-15	---	4.5-7.3	0
	7-45	5.0-15	---	4.5-6.5	0
	45-60	5.0-15	---	5.1-7.3	0
1125F:					
Dorerton	0-3	7.0-25	---	5.1-6.5	0
	3-15	7.0-13	---	5.1-7.3	0
	15-18	10-20	---	5.1-7.3	0
	18-30	10-19	---	5.6-7.3	0
	30-60	1.0-14	---	7.4-8.4	1-15
Elbaville	0-1	---	80-120	3.5-6.0	---
	1-5	10-30	---	5.1-6.5	0
	5-11	8.0-16	---	5.1-7.3	0
	11-21	13-26	---	5.1-7.3	0
	21-26	25-36	---	5.1-7.3	0
	26-37	10-26	---	6.6-7.8	0-5
	37-60	3.0-10	---	6.6-7.8	0-10
1145F:					
Gaphill	0-2	---	80-120	3.5-6.0	---
	2-5	10-30	---	4.5-6.5	0
	5-11	1.0-10	---	5.6-7.3	0
	11-32	2.0-15	---	5.6-7.3	0
	32-50	1.0-7.0	---	5.6-7.3	0
	50-56	0.0-6.0	---	5.6-7.3	0
	56-80	---	---	---	0
Rockbluff	0-2	---	80-120	3.5-6.0	---
	2-4	8.0-20	---	4.5-6.5	0
	4-9	0.0-6.0	---	5.1-7.3	0
	9-35	0.0-5.0	---	5.1-7.3	0
	35-52	0.0-3.0	---	5.1-7.3	0
	52-80	---	---	---	0
1155F:					
Brodale	0-6	7.0-19	---	6.6-8.4	0-20
	6-50	3.0-11	---	7.4-8.4	40-60
	50-80	---	---	---	---

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
1155F:					
Bellechester---------	0-7	2.0-6.0	---	6.1-8.4	0
	7-23	2.0-6.0	---	6.1-8.4	0
	23-42	1.0-6.0	---	6.6-8.4	0-5
	42-80	---	---	---	---
Rock outcrop.					
1233F:					
Boone----------------	0-1	---	80-120	3.5-6.0	---
	1-3	0.0-4.0	---	4.5-6.5	0
	3-21	0.0-3.0	---	4.5-6.5	0
	21-35	0.0-3.0	---	4.5-6.5	0
	35-60	---	---	---	0
Tarr-----------------	0-2	---	80-120	3.5-6.0	---
	2-6	5.0-15	---	4.5-6.5	0
	6-34	1.0-7.0	---	4.5-6.5	0
	34-62	0.0-5.0	---	4.5-6.5	0
1658A:					
Algansee-------------	0-4	6.0-15	---	5.6-7.3	0
	4-31	1.0-10	---	5.6-7.3	0
	31-60	1.0-4.0	---	5.6-7.3	0
Kalmarville----------	0-6	11-24	---	5.6-7.3	0
	6-37	6.0-15	---	5.6-7.3	0
	37-42	6.0-15	---	5.6-7.3	0
	42-60	1.0-5.0	---	5.6-7.3	0
1743F:					
Council--------------	0-1	---	80-120	3.5-6.0	---
	1-3	10-20	---	4.5-6.5	0
	3-45	5.0-15	---	4.5-6.5	0
	45-60	5.0-15	---	5.1-7.3	0
Elevasil-------------	0-1	---	80-120	3.5-6.0	---
	1-3	10-20	---	4.5-6.5	0
	3-27	2.0-15	---	4.5-6.5	0
	27-31	1.0-9.0	---	4.5-6.5	0
	31-39	0.0-7.0	---	4.5-6.5	0
	39-60	---	---	---	0
Norden---------------	0-1	---	80-120	3.5-6.0	---
	1-3	15-25	---	5.1-6.5	0
	3-20	10-20	---	5.1-7.3	0
	20-37	---	2.0-15	4.5-6.0	0
	37-60	---	---	---	---
2002. Udorthents, earthen dams					
2003A. Riverwash					
2013. Pits, gravel					

Table 25.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
2014.					
Pits, quarry, hard bedrock					
2020.					
Urban land, valley trains					
2030:					
Udorthents, cut or fill.					
Udipsamments, cut or fill.					
2040.					
Udipsamments, dredge material					
2050.					
Landfill					
M-W.					
Miscellaneous water					
W.					
Water					

Table 26.--Soil Moisture Status by Depth

(Depths of layers are in feet. Absence of an entry indicates that the feature is not a concern or that data were not estimated.
definitions of terms used in this table)

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
20A:										
Palms	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---
Houghton	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0: Moist* 0.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---	0.0-6.7: Wet ---
21A:										
Palms	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-6.7: Wet ---	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-6.7: Wet ---
30A:										
Adder	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0: Moist* 0.0-6.7: Wet	0.0: Moist* 0.0-6.7: Wet	0.0: Moist* 0.0-6.7: Wet	0.0: Moist* 0.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0: Moist* 0.0-6.7: Wet
110D3:										
Timula	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
110E2:										
Timula	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
114B2:										
Mt. Carroll	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
115C2:										
Seaton	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
115D2:										
Seaton----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
115E2:										
Seaton----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
116C2:										
Churchtown------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
116D2:										
Churchtown------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
116E2:										
Churchtown------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
126B:										
Barremills------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-5.0: Moist	0.0-4.5: Moist	0.0-5.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-5.0: Moist
	---	---	---	5.0-5.5: Wet	4.5-5.5: Wet	5.0-5.5: Wet	---	---	---	5.0-5.5: Wet
	---	---	---	5.5-6.7: Moist	5.5-6.7: Moist	5.5-6.7: Moist	---	---	---	5.5-6.7: Moist
132B2:										
Brinkman--------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-5.0: Moist	0.0-4.5: Moist	0.0-5.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-5.0: Moist
	---	---	---	5.0-5.5: Wet	4.5-5.5: Wet	5.0-5.5: Wet	---	---	---	5.0-5.5: Wet
	---	---	---	5.5-6.7: Moist	5.5-6.7: Moist	5.5-6.7: Moist	---	---	---	5.5-6.7: Moist
132C2:										
Brinkman--------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-5.0: Moist	0.0-4.5: Moist	0.0-5.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-5.0: Moist
	---	---	---	5.0-5.5: Wet	4.5-5.5: Wet	5.0-5.5: Wet	---	---	---	5.0-5.5: Wet
	---	---	---	5.5-6.7: Moist	5.5-6.7: Moist	5.5-6.7: Moist	---	---	---	5.5-6.7: Moist

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
133B2:										
Valton----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
133C2:										
Valton----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
133D2:										
Valton----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
134C2:										
Lamoille--------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
134D2:										
Lamoille--------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
163E2:										
Elbaville-------	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
202C2:										
Lambeau---------	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist
202D2:										
Lambeau---------	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist	0.0-5.3: Moist
213D2:										
Hixton----------	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist
213E2:										
Hixton----------	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist
224B:										
Elevasil--------	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
224C2:										
Elevasil--------	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist
224D2:										
Elevasil--------	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist
233C:										
Boone-----------	0.0-2.9: Moist --- ---	0.0-2.9: Moist --- ---	0.0-2.9: Moist --- ---	0.0-2.9: Moist --- ---	0.0-2.9: Moist --- ---	0.0-2.9: Moist --- ---	0.0-1.0: Moist 1.0-2.0: Dry 2.0-2.9: Moist	0.0-1.0: Moist 1.0-2.0: Dry 2.0-2.9: Moist	0.0-2.9: Moist --- ---	0.0-2.9: Moist --- ---
253C2:										
Greenridge------	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist
253D2:										
Greenridge------	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist	0.0-5.7: Moist
254C2:										
Norden----------	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist
254D2:										
Norden----------	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist
254E2:										
Norden----------	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist
296B:										
Ludington-------	0.0-3.2: Moist --- ---	0.0-3.2: Moist --- ---	0.0-2.5: Moist 2.5-3.0: Wet 3.0-3.2: Moist	0.0-2.0: Moist 2.0-3.0: Wet 3.0-3.2: Moist	0.0-2.0: Moist 2.0-3.0: Wet 3.0-3.2: Moist	0.0-3.2: Moist --- ---	0.0-3.2: Moist --- ---	0.0-3.2: Moist --- ---	0.0-3.2: Moist --- ---	0.0-2.5: Moist 2.5-3.0: Wet 3.0-3.2: Moist

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
312B2:										
Festina----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
318A:										
Bearpen----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.5: Moist	0.0-1.5: Moist	0.0-1.5: Moist	0.0-1.5: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.5: Moist
	---	---	1.5-2.0: Wet	1.5-2.0: Wet	1.5-2.0: Wet	1.5-2.0: Wet	---	---	---	1.5-2.0: Wet
	---	---	2.0-6.7: Moist	2.0-6.7: Moist	2.0-6.7: Moist	2.0-6.7: Moist	---	---	---	2.0-6.7: Moist
326B2:										
Medary-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-3.5: Moist	0.0-3.5: Moist	0.0-3.0: Moist	0.0-3.5: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-3.0: Moist
	---	---	3.5-4.0: Wet	3.5-4.0: Wet	3.0-4.0: Wet	3.5-4.0: Wet	---	---	---	3.0-4.0: Wet
	---	---	4.0-6.7: Moist	4.0-6.7: Moist	4.0-6.7: Moist	4.0-6.7: Moist	---	---	---	4.0-6.7: Moist
326F:										
Medary-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-3.5: Moist	0.0-3.5: Moist	0.0-3.0: Moist	0.0-3.5: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-3.0: Moist
	---	---	3.5-4.0: Wet	3.5-4.0: Wet	3.0-4.0: Wet	3.5-4.0: Wet	---	---	---	3.0-4.0: Wet
	---	---	4.0-6.7: Moist	4.0-6.7: Moist	4.0-6.7: Moist	4.0-6.7: Moist	---	---	---	4.0-6.7: Moist
336A:										
Toddville--------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-4.0: Moist	0.0-4.0: Moist	0.0-4.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-4.0: Moist
	---	---	4.0-5.0: Wet	4.0-5.0: Wet	4.0-5.0: Wet	---	---	---	---	4.0-5.0: Wet
	---	---	5.0-6.7: Moist	5.0-6.7: Moist	5.0-6.7: Moist	---	---	---	---	5.0-6.7: Moist
403A:										
Dakota-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
413A:										
Rasset-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
424B:										
Merit-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
424D2:										
Merit-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
424F:										
Merit-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
433B:										
Forkhorn--------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
434B:										
Bilson----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
434C2:										
Bilson----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
446A:										
Merimod---------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-4.0: Moist	0.0-4.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-4.0: Moist
	---	---	---	4.0-5.0: Wet	4.0-5.0: Wet	---	---	---	---	4.0-5.0: Wet
	---	---	---	5.0-6.7: Moist	5.0-6.7: Moist	---	---	---	---	5.0-6.7: Moist
456A:										
Bilmod----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-4.0: Moist	0.0-4.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-4.0: Moist
	---	---	---	4.0-5.0: Wet	4.0-5.0: Wet	---	---	---	---	4.0-5.0: Wet
	---	---	---	5.0-6.7: Moist	5.0-6.7: Moist	---	---	---	---	5.0-6.7: Moist

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
458A:										
Hoop-----------	0.0-2.5:	0.0-2.5:	0.0-2.5:	0.0-1.5:	0.0-1.5:	0.0-2.5:	0.0-3.0:	0.0-3.0:	0.0-2.5:	0.0-2.5:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	2.5-6.7:	2.5-6.7:	2.5-6.7:	1.5-6.7:	1.5-6.7:	2.5-6.7:	3.0-6.7:	3.0-6.7:	2.5-6.7:	2.5-6.7:
	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
483B2:										
Brice----------	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
501A:										
Finchford-------	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-1.0:	0.0-1.0:	0.0-6.7:	0.0-6.7:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	---	---	---	---	---	---	1.0-2.0:	1.0-2.0:	---	---
							Dry	Dry		
	---	---	---	---	---	---	2.0-6.7:	2.0-6.7:	---	---
							Moist	Moist		
502B2:										
Chelsea---------	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-1.0:	0.0-1.0:	0.0-6.7:	0.0-6.7:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	---	---	---	---	---	---	1.0-2.0:	1.0-2.0:	---	---
							Dry	Dry		
	---	---	---	---	---	---	2.0-6.7:	2.0-6.7:	---	---
							Moist	Moist		
502C2:										
Chelsea---------	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-1.0:	0.0-1.0:	0.0-6.7:	0.0-6.7:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	---	---	---	---	---	---	1.0-2.0:	1.0-2.0:	---	---
							Dry	Dry		
	---	---	---	---	---	---	2.0-6.7:	2.0-6.7:	---	---
							Moist	Moist		
511B:										
Plainfield------	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-1.0:	0.0-1.0:	0.0-6.7:	0.0-6.7:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	---	---	---	---	---	---	1.0-2.0:	1.0-2.0:	---	---
							Dry	Dry		
	---	---	---	---	---	---	2.0-6.7:	2.0-6.7:	---	---
							Moist	Moist		

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
511C:										
Plainfield------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-6.7: Moist	2.0-6.7: Moist	---	---
511F:										
Plainfield------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-6.7: Moist	2.0-6.7: Moist	---	---
551A:										
Impact----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-6.7: Moist	2.0-6.7: Moist	---	---
556A:										
Mindoro---------	0.0-4.5: Moist	0.0-4.5: Moist	0.0-4.5: Moist	0.0-4.0: Moist	0.0-4.0: Moist	0.0-4.0: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-5.0: Moist	0.0-4.5: Moist
	4.5-6.7: Wet	4.5-6.7: Wet	4.5-6.7: Wet	4.0-6.7: Wet	4.0-6.7: Wet	4.0-6.7: Wet	1.0-2.0: Dry	1.0-2.0: Dry	5.0-6.7: Wet	4.5-6.7: Wet
	---	---	---	---	---	---	2.0-5.0: Moist	2.0-5.5: Moist	---	---
	---	---	---	---	---	---	5.0-6.7: Wet	5.5-6.7: Wet	---	---
561B:										
Tarr------------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-6.7: Moist	2.0-6.7: Moist	---	---

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
561C:										
Tarr------------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-6.7: Moist	2.0-6.7: Moist	---	---
561F:										
Tarr------------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-6.7: Moist	2.0-6.7: Moist	---	---
562B:										
Gosil-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
562C:										
Gosil-----------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
566A:										
Tint------------	0.0-4.5: Moist	0.0-4.5: Moist	0.0-4.5: Moist	0.0-4.0: Moist	0.0-4.0: Moist	0.0-4.5: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-5.0: Moist	0.0-4.5: Moist
	4.5-6.7: Wet	4.5-6.7: Wet	4.5-6.7: Wet	4.0-6.7: Wet	4.0-6.7: Wet	4.5-6.7: Wet	1.0-2.0: Dry	1.0-2.0: Dry	5.0-6.7: Wet	4.5-6.7: Wet
	---	---	---	---	---	---	2.0-5.0: Moist	2.0-5.5: Moist	---	---
	---	---	---	---	---	---	5.0-6.7: Wet	5.5-6.7: Wet	---	---
568A:										
Majik-----------	0.0-2.5: Moist	0.0-2.5: Moist	0.0-2.5: Moist	0.0-1.5: Moist	0.0-1.5: Moist	0.0-1.5: Moist	0.0-3.0: Moist	0.0-3.0: Moist	0.0-2.5: Moist	0.0-2.0: Moist
	2.5-6.7: Wet	2.5-6.7: Wet	2.5-6.7: Wet	1.5-6.7: Wet	1.5-6.7: Wet	1.5-6.7: Wet	3.0-6.7: Wet	3.0-6.7: Wet	2.5-6.7: Wet	2.0-6.7: Wet

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
569A:										
Newlang---------	0.0-0.5:	0.0-0.5:	0.0:	0.0:	0.0:	0.0:	0.0-1.0:	0.0-2.0:	0.0-1.0:	0.0:
	Moist	Moist	Moist*	Moist*	Moist*	Moist*	Moist	Moist	Moist	Moist*
	0.5-6.7:	0.5-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	1.0-6.7:	2.0-6.7:	1.0-6.7:	0.0-6.7:
	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
576B:										
Tintson---------	0.0-6.7:	0.0-6.7:	0.0-3.5:	0.0-3.5:	0.0-3.0:	0.0-3.5:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-3.0:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	---	---	3.5-4.0:	3.5-4.0:	3.0-4.0:	3.5-4.0:	---	---	---	3.0-4.0:
			Wet	Wet	Wet	Wet				Wet
	---	---	4.0-6.7:	4.0-6.7:	4.0-6.7:	4.0-6.7:	---	---	---	4.0-6.7:
			Moist	Moist	Moist	Moist				Moist
601C:										
Beavercreek-----	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
606A:										
Huntsville------	0.0-4.5:	0.0-4.5:	0.0-4.5:	0.0-4.0:	0.0-4.0:	0.0-4.0:	0.0-5.0:	0.0-5.5:	0.0-5.0:	0.0-4.5:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	4.5-6.7:	4.5-6.7:	4.5-6.7:	4.0-6.7:	4.0-6.7:	4.0-6.7:	5.0-6.7:	5.5-6.7:	5.0-6.7:	4.5-6.7:
	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
608A:										
Lawson----------	0.0-2.5:	0.0-2.5:	0.0-2.5:	0.0-1.5:	0.0-1.5:	0.0-2.5:	0.0-3.0:	0.0-3.0:	0.0-2.5:	0.0-2.5:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	2.5-6.7:	2.5-6.7:	2.5-6.7:	1.5-6.7:	1.5-6.7:	2.5-6.7:	3.0-6.7:	3.0-6.7:	2.5-6.7:	2.5-6.7:
	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
609A:										
Otter-----------	0.0-0.5:	0.0-0.5:	0.0-0.5:	0.0-0.5:	0.0:	0.0-0.5:	0.0-1.0:	0.0-2.0:	0.0-1.0:	0.0-0.5:
	Moist	Moist	Moist	Moist	Moist*	Moist	Moist	Moist	Moist	Moist
	0.5-6.7:	0.5-6.7:	0.5-6.7:	0.5-6.7:	0.0-6.7:	0.5-6.7:	1.0-6.7:	2.0-6.7:	1.0-6.7:	0.5-6.7:
	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
625A:										
Arenzville------	0.0-4.5:	0.0-4.5:	0.0-4.5:	0.0-4.0:	0.0-4.0:	0.0-4.0:	0.0-5.0:	0.0-5.5:	0.0-5.0:	0.0-4.5:
	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	4.5-6.7:	4.5-6.7:	4.5-6.7:	4.0-6.7:	4.0-6.7:	4.0-6.7:	5.0-6.7:	5.5-6.7:	5.0-6.7:	4.5-6.7:
	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
626A:										
Arenzville	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
628A:										
Orion	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-1.5: Moist 1.5-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-3.0: Moist 3.0-6.7: Wet	0.0-2.5: Moist 2.5-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet
629A:										
Ettrick	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0: Moist* 0.0-6.7: Wet	0.0: Moist* 0.0-6.7: Wet	0.0: Moist* 0.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet
656A:										
Scotah	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
666A:										
Absco	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
676A:										
Kickapoo	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-4.0: Moist 4.0-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-5.5: Moist 5.5-6.7: Wet	0.0-5.0: Moist 5.0-6.7: Wet	0.0-4.5: Moist 4.5-6.7: Wet
739A:										
Root	0.0-1.0: Moist 1.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-2.0: Moist 2.0-6.7: Wet	0.0-1.0: Moist 1.0-6.7: Wet	0.0-0.5: Moist 0.5-6.7: Wet

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
743C2:										
Council---------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
743D2:										
Council---------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
743E2:										
Council---------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
1125F:										
Dorerton--------	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
Elbaville-------	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist	0.0-5.0: Moist
1145F:										
Gaphill---------	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist	0.0-4.7: Moist
Rockbluff-------	0.0-4.3: Moist	0.0-4.3: Moist	0.0-4.3: Moist	0.0-4.3: Moist	0.0-4.3: Moist	0.0-4.3: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-4.3: Moist	0.0-4.3: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-4.3: Moist	2.0-4.3: Moist	---	---
1155F:										
Brodale---------	0.0-4.2: Moist	0.0-4.2: Moist	0.0-4.2: Moist	0.0-4.2: Moist	0.0-4.2: Moist	0.0-4.2: Moist	0.0-0.5: Moist	0.0-0.5: Moist	0.0-4.2: Moist	0.0-4.2: Moist
	---	---	---	---	---	---	0.5-3.5: Dry	0.5-3.5: Dry	---	---
	---	---	---	---	---	---	3.5-4.2: Moist	3.5-4.2: Moist	---	---

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
1155F:										
Bellechester----	0.0-3.5: Moist	0.0-3.5: Moist	0.0-3.5: Moist	0.0-3.5: Moist	0.0-3.5: Moist	0.0-3.5: Moist	0.0-0.5: Moist	0.0-0.5: Moist	0.0-3.5: Moist	0.0-3.5: Moist
	---	---	---	---	---	---	0.5-3.0: Dry	0.5-3.0: Dry	---	---
	---	---	---	---	---	---	3.0-3.5: Moist	3.0-3.5: Moist	---	---
Rock outcrop.										
1233F:										
Boone-----------	0.0-2.9: Moist	0.0-2.9: Moist	0.0-2.9: Moist	0.0-2.9: Moist	0.0-2.9: Moist	0.0-2.9: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-2.9: Moist	0.0-2.9: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-2.9: Moist	2.0-2.9: Moist	---	---
Tarr------------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-1.0: Moist	0.0-1.0: Moist	0.0-6.7: Moist	0.0-6.7: Moist
	---	---	---	---	---	---	1.0-2.0: Dry	1.0-2.0: Dry	---	---
	---	---	---	---	---	---	2.0-6.7: Moist	2.0-6.7: Moist	---	---
1658A:										
Algansee--------	0.0-2.5: Moist	0.0-2.5: Moist	0.0-2.5: Moist	0.0-1.5: Moist	0.0-1.5: Moist	0.0-2.5: Moist	0.0-3.0: Moist	0.0-3.0: Moist	0.0-2.5: Moist	0.0-2.5: Moist
	2.5-6.7: Wet	2.5-6.7: Wet	2.5-6.7: Wet	1.5-6.7: Wet	1.5-6.7: Wet	2.5-6.7: Wet	3.0-6.7: Wet	3.0-6.7: Wet	2.5-6.7: Wet	2.5-6.7: Wet
Kalmarville-----	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-1.0: Moist	0.0-1.5: Moist	0.0-1.0: Moist	0.0-6.7: Wet
	---	---	---	---	---	---	1.0-6.7: Wet	1.5-6.7: Wet	1.0-6.7: Wet	---
1743F:										
Council---------	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist	0.0-6.7: Moist
Elevasil--------	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist	0.0-3.2: Moist

See footnote at end of table.

Table 26.--Soil Moisture Status by Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
1743F:										
Norden----------	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist	0.0-3.1: Moist
2002. Udorthents, earthen dams										
2003A. Riverwash										
2013. Pits, gravel										
2014. Pits, quarry, hard bedrock										
2020. Urban land, valley trains										
2030: Udorthents, cut or fill.										
Udipsamments, cut or fill.										
2040. Udipsamments, dredge material										
2050. Landfill										
M-W. Miscellaneous water										
W. Water										

* The moisture status is transitory at about the indicated depth.

Table 27.--Flooding Frequency and Duration

(See text for definitions of terms used in this table. Absence of an entry indicates that data were not estim

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
20A:										
Palms	None	None	None	None	None	None	None	None	None	None
Houghton	None	None	None	None	None	None	None	None	None	None
21A:										
Palms	Rare Brief	Rare Brief	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Rare Brief	Rare Brief	Occasional Long	Rare Brief
30A:										
Adder	Rare Brief	Occasional Brief	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	Occasional Brief	Frequent Long
110D3:										
Timula	None	None	None	None	None	None	None	None	None	None
110E2:										
Timula	None	None	None	None	None	None	None	None	None	None
114B2:										
Mt. Carroll	None	None	None	None	None	None	None	None	None	None
115C2:										
Seaton	None	None	None	None	None	None	None	None	None	None
115D2:										
Seaton	None	None	None	None	None	None	None	None	None	None
115E2:										
Seaton	None	None	None	None	None	None	None	None	None	None
116C2:										
Churchtown	None	None	None	None	None	None	None	None	None	None
116D2:										
Churchtown	None	None	None	None	None	None	None	None	None	None
116E2:										
Churchtown	None	None	None	None	None	None	None	None	None	None
126B:										
Barremills	None	None	None	None	None	None	None	None	None	None

Table 27.--Flooding Frequency and Duration--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
132B2: Brinkman	None	None	None	None	None	None	None	None	None	None
132C2: Brinkman	None	None	None	None	None	None	None	None	None	None
133B2: Valton	None	None	None	None	None	None	None	None	None	None
133C2: Valton	None	None	None	None	None	None	None	None	None	None
133D2: Valton	None	None	None	None	None	None	None	None	None	None
134C2: Lamoille	None	None	None	None	None	None	None	None	None	None
134D2: Lamoille	None	None	None	None	None	None	None	None	None	None
163E2: Elbaville	None	None	None	None	None	None	None	None	None	None
202C2: Lambeau	None	None	None	None	None	None	None	None	None	None
202D2: Lambeau	None	None	None	None	None	None	None	None	None	None
213D2: Hixton	None	None	None	None	None	None	None	None	None	None
213E2: Hixton	None	None	None	None	None	None	None	None	None	None
224B: Elevasil	None	None	None	None	None	None	None	None	None	None
224C2: Elevasil	None	None	None	None	None	None	None	None	None	None
224D2: Elevasil	None	None	None	None	None	None	None	None	None	None

Table 27.--Flooding Frequency and Duration--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
233C:										
Boone----------	None	None	None	None	None	None	None	None	None	None
253C2:										
Greenridge------	None	None	None	None	None	None	None	None	None	None
253D2:										
Greenridge------	None	None	None	None	None	None	None	None	None	None
254C2:										
Norden----------	None	None	None	None	None	None	None	None	None	None
254D2:										
Norden----------	None	None	None	None	None	None	None	None	None	None
254E2:										
Norden----------	None	None	None	None	None	None	None	None	None	None
296B:										
Ludington-------	None	None	None	None	None	None	None	None	None	None
312B2:										
Festina---------	None	None	None	None	None	None	None	None	None	None
318A:										
Bearpen---------	None	None	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief
326B2:										
Medary----------	None	None	None	None	None	None	None	None	None	None
326F:										
Medary----------	None	None	None	None	None	None	None	None	None	None
336A:										
Toddville-------	None	None	None	None	None	None	None	None	None	None
403A:										
Dakota----------	None	None	None	None	None	None	None	None	None	None
413A:										
Rasset----------	None	None	None	None	None	None	None	None	None	None

Table 27.--Flooding Frequency and Duration--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
424B:										
Merit	None	None	None	None	None	None	None	None	None	None
424D2:										
Merit	None	None	None	None	None	None	None	None	None	None
424F:										
Merit	None	None	None	None	None	None	None	None	None	None
433B:										
Forkhorn	None	None	None	None	None	None	None	None	None	None
434B:										
Bilson	None	None	None	None	None	None	None	None	None	None
434C2:										
Bilson	None	None	None	None	None	None	None	None	None	None
446A:										
Merimod	None	None	None	None	None	None	None	None	None	None
456A:										
Bilmod	None	None	None	None	None	None	None	None	None	None
458A:										
Hoop	None	None	None	None	None	None	None	None	None	None
483B2:										
Brice	None	None	None	None	None	None	None	None	None	None
501A:										
Finchford	None	None	None	None	None	None	None	None	None	None
502B2:										
Chelsea	None	None	None	None	None	None	None	None	None	None
502C2:										
Chelsea	None	None	None	None	None	None	None	None	None	None
511B:										
Plainfield	None	None	None	None	None	None	None	None	None	None
511C:										
Plainfield	None	None	None	None	None	None	None	None	None	None

Table 27.--Flooding Frequency and Duration--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
511F:										
Plainfield------	None	None	None	None	None	None	None	None	None	None
551A:										
Impact----------	None	None	None	None	None	None	None	None	None	None
556A:										
Mindoro---------	None	None	None	None	None	None	None	None	None	None
561B:										
Tarr------------	None	None	None	None	None	None	None	None	None	None
561C:										
Tarr------------	None	None	None	None	None	None	None	None	None	None
561F:										
Tarr------------	None	None	None	None	None	None	None	None	None	None
562B:										
Gosil-----------	None	None	None	None	None	None	None	None	None	None
562C:										
Gosil-----------	None	None	None	None	None	None	None	None	None	None
566A:										
Tint------------	None	None	None	None	None	None	None	None	None	None
568A:										
Majik-----------	None	None	None	None	None	None	None	None	None	None
569A:										
Newlang---------	Rare Brief	Rare Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Rare Brief	Rare Brief	Rare Brief	Occasiona Brief
576B:										
Tintson---------	None	None	None	None	None	None	None	None	None	None
601C:										
Beavercreek-----	Rare Extremely brief	Rare Extremely brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Rare Extremely brief	Rare Extremely brief	Rare Extremely brief	Rare Extremely brief	Occasiona Very brief
606A:										
Huntsville------	Rare Brief	Rare Brief	Rare Brief	Rare Brief	Rare Brief	Rare Brief	Rare Brief	Rare Brief	Rare Brief	Rare Brief

Table 27.--Flooding Frequency and Duration--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
608A: Lawson----------	Rare Brief	Rare Brief	Rare Brief	Occasional Long	Occasional Long	Rare Brief	Rare Brief	Rare Brief	Rare Brief	Rare Brief
609A: Otter-----------	Occasional Brief	Occasional Brief	Occasional Brief	Frequent Long	Frequent Long	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief
625A: Arenzville------	Rare Very brief	Rare Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Rare Very brief	Rare Very brief	Rare Very brief	Occasional Very brief
626A: Arenzville------	Rare Very brief	Rare Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Rare Very brief	Rare Very brief	Rare Very brief	Occasional Very brief
628A: Orion-----------	Rare Very brief	Rare Very brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Rare Very brief	Rare Very brief	Rare Very brief	Occasional Brief
629A: Ettrick---------	Rare Very brief	Occasional Brief	Frequent Brief	Frequent Brief	Frequent Brief	Occasional Brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief
656A: Scotah----------	Very rare Very brief	Rare Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Rare Very brief	Rare Very brief	Very rare Very brief	Very rare Very brief	Very rare Very brief
666A: Absco-----------	Rare Very brief	Rare Very brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief	Rare Very brief	Rare Very brief	Rare Very brief	Rare Very brief
676A: Kickapoo--------	Rare Very brief	Rare Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Occasional Very brief	Rare Very brief	Rare Very brief	Rare Very brief	Occasional Very brief
739A: Root------------	Occasional Brief	Occasional Brief	Frequent Brief	Frequent Brief	Frequent Brief	Frequent Brief	Occasional Brief	Occasional Brief	Occasional Brief	Occasional Brief

Table 27.--Flooding Frequency and Duration--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
743C2:										
Council---------	None	None	None	None	None	None	None	None	None	None
743D2:										
Council---------	None	None	None	None	None	None	None	None	None	None
743E2:										
Council---------	None	None	None	None	None	None	None	None	None	None
1125F:										
Dorerton--------	None	None	None	None	None	None	None	None	None	None
Elbaville-------	None	None	None	None	None	None	None	None	None	None
1145F:										
Gaphill---------	None	None	None	None	None	None	None	None	None	None
Rockbluff-------	None	None	None	None	None	None	None	None	None	None
1155F:										
Brodale---------	None	None	None	None	None	None	None	None	None	None
Bellechester----	None	None	None	None	None	None	None	None	None	None
Rock outcrop.										
1233F:										
Boone-----------	None	None	None	None	None	None	None	None	None	None
Tarr------------	None	None	None	None	None	None	None	None	None	None
1658A:										
Algansee--------	Very rare Very brief	Very rare Very brief	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Rare Very brief	Very rare Very brief	Occasional Brief	Rare Very brief
Kalmarville-----	Very rare Brief	Very rare Brief	Frequent Long	Frequent Long	Frequent Long	Frequent Long	Rare Brief	Very rare Brief	Occasional Long	Rare Brief
1743F:										
Council---------	None	None	None	None	None	None	None	None	None	None
Elevasil--------	None	None	None	None	None	None	None	None	None	None
Norden----------	None	None	None	None	None	None	None	None	None	None

Table 27.--Flooding Frequency and Duration--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
2002. Udorthents, earthen dams										
2003A. Riverwash										
2013. Pits, gravel										
2014. Pits, quarry, hard bedrock										
2020. Urban land, valley trains										
2030: Udorthents, cut or fill.										
Udipsamments, cut or fill.										
2040. Udipsamments, dredge material										
2050. Landfill										
M-W. Miscellaneous water										
W. Water										

Table 28.--Ponding Frequency, Duration, and Depth

(Depth refers to the depth, in feet, of the water above the surface. See text for definitions of terms used in this table. Abse
indicates that no estimate was made)

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
20A:										
Palms-----------	Occasional Very long Depth: 0.3	Occasional Very long Depth: 0.3	Frequent Very long Depth: 0.5	Frequent Very long Depth: 0.5	Frequent Very long Depth: 0.5	Occasional Long Depth: 0.3	Occasional Brief Depth: 0.3	Occasional Brief Depth: 0.3	Occasional Long Depth: 0.3	Frequent Very long Depth: 0.5
Houghton--------	Frequent Very long Depth: 0.5	Frequent Very long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0	Occasional Long Depth: 0.5	Occasional Long Depth: 0.5	Frequent Very long Depth: 1.0	Frequent Very long Depth: 1.0
21A:										
Palms-----------	Occasional Very long Depth: 0.3	Occasional Very long Depth: 0.3	Frequent Very long Depth: 0.5	Frequent Very long Depth: 0.5	Frequent Very long Depth: 0.5	Frequent Long Depth: 0.3	Occasional Brief Depth: 0.3	Occasional Brief Depth: 0.3	Occasional Long Depth: 0.3	Frequent Very long Depth: 0.5
30A:										
Adder-----------	Rare Brief Depth: 0.0	Occasional Brief Depth: 0.0	Frequent Long Depth: 0.5	Frequent Long Depth: 0.5	Frequent Long Depth: 0.5	Frequent Long Depth: 0.5	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0	Frequent Long Depth: 0.5
110D3:										
Timula----------	None	None	None	None	None	None	None	None	None	None
110E2:										
Timula----------	None	None	None	None	None	None	None	None	None	None
114B2:										
Mt. Carroll-----	None	None	None	None	None	None	None	None	None	None
115C2:										
Seaton----------	None	None	None	None	None	None	None	None	None	None
115D2:										
Seaton----------	None	None	None	None	None	None	None	None	None	None
115E2:										
Seaton----------	None	None	None	None	None	None	None	None	None	None

Table 28.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
116C2:										
Churchtown------	None	None	None	None	None	None	None	None	None	None
116D2:										
Churchtown------	None	None	None	None	None	None	None	None	None	None
116E2:										
Churchtown------	None	None	None	None	None	None	None	None	None	None
126B:										
Barremills------	None	None	None	None	None	None	None	None	None	None
132B2:										
Brinkman--------	None	None	None	None	None	None	None	None	None	None
132C2:										
Brinkman--------	None	None	None	None	None	None	None	None	None	None
133B2:										
Valton----------	None	None	None	None	None	None	None	None	None	None
133C2:										
Valton----------	None	None	None	None	None	None	None	None	None	None
133D2:										
Valton----------	None	None	None	None	None	None	None	None	None	None
134C2:										
Lamoille--------	None	None	None	None	None	None	None	None	None	None
134D2:										
Lamoille--------	None	None	None	None	None	None	None	None	None	None
163E2:										
Elbaville-------	None	None	None	None	None	None	None	None	None	None
202C2:										
Lambeau---------	None	None	None	None	None	None	None	None	None	None
202D2:										
Lambeau---------	None	None	None	None	None	None	None	None	None	None
213D2:										
Hixton----------	None	None	None	None	None	None	None	None	None	None

Table 28.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
213E2:										
Hixton----------	None	None	None	None	None	None	None	None	None	None
224B:										
Elevasil--------	None	None	None	None	None	None	None	None	None	None
224C2:										
Elevasil--------	None	None	None	None	None	None	None	None	None	None
224D2:										
Elevasil--------	None	None	None	None	None	None	None	None	None	None
233C:										
Boone-----------	None	None	None	None	None	None	None	None	None	None
253C2:										
Greenridge------	None	None	None	None	None	None	None	None	None	None
253D2:										
Greenridge------	None	None	None	None	None	None	None	None	None	None
254C2:										
Norden----------	None	None	None	None	None	None	None	None	None	None
254D2:										
Norden----------	None	None	None	None	None	None	None	None	None	None
254E2:										
Norden----------	None	None	None	None	None	None	None	None	None	None
296B:										
Ludington-------	None	None	None	None	None	None	None	None	None	None
312B2:										
Festina---------	None	None	None	None	None	None	None	None	None	None
318A:										
Bearpen---------	None	None	None	None	None	None	None	None	None	None
326B2:										
Medary----------	None	None	None	None	None	None	None	None	None	None
326F:										
Medary----------	None	None	None	None	None	None	None	None	None	None

Table 28.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
336A:										
Toddville-------	None	None	None	None	None	None	None	None	None	None
403A:										
Dakota----------	None	None	None	None	None	None	None	None	None	None
413A:										
Rasset----------	None	None	None	None	None	None	None	None	None	None
424B:										
Merit-----------	None	None	None	None	None	None	None	None	None	None
424D2:										
Merit-----------	None	None	None	None	None	None	None	None	None	None
424F:										
Merit-----------	None	None	None	None	None	None	None	None	None	None
433B:										
Forkhorn--------	None	None	None	None	None	None	None	None	None	None
434B:										
Bilson----------	None	None	None	None	None	None	None	None	None	None
434C2:										
Bilson----------	None	None	None	None	None	None	None	None	None	None
446A:										
Merimod---------	None	None	None	None	None	None	None	None	None	None
456A:										
Bilmod----------	None	None	None	None	None	None	None	None	None	None
458A:										
Hoop------------	None	None	None	None	None	None	None	None	None	None
483B2:										
Brice-----------	None	None	None	None	None	None	None	None	None	None
501A:										
Finchford-------	None	None	None	None	None	None	None	None	None	None
502B2:										
Chelsea---------	None	None	None	None	None	None	None	None	None	None

Table 28.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
502C2:										
Chelsea	None	None	None	None	None	None	None	None	None	None
511B:										
Plainfield	None	None	None	None	None	None	None	None	None	None
511C:										
Plainfield	None	None	None	None	None	None	None	None	None	None
511F:										
Plainfield	None	None	None	None	None	None	None	None	None	None
551A:										
Impact	None	None	None	None	None	None	None	None	None	None
556A:										
Mindoro	None	None	None	None	None	None	None	None	None	None
561B:										
Tarr	None	None	None	None	None	None	None	None	None	None
561C:										
Tarr	None	None	None	None	None	None	None	None	None	None
561F:										
Tarr	None	None	None	None	None	None	None	None	None	None
562B:										
Gosil	None	None	None	None	None	None	None	None	None	None
562C:										
Gosil	None	None	None	None	None	None	None	None	None	None
566A:										
Tint	None	None	None	None	None	None	None	None	None	None
568A:										
Majik	None	None	None	None	None	None	None	None	None	None
569A:										
Newlang	Rare Brief Depth: 0.0	Rare Brief Depth: 0.0	Occasional Brief Depth: 0.5	Occasional Brief Depth: 0.5	Occasional Brief Depth: 0.5	Occasional Brief Depth: 0.5	Rare Brief Depth: 0.0	Rare Brief Depth: 0.0	Rare Brief Depth: 0.0	Occasional Brief Depth: 0.5

Table 28.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
576B:										
Tintson----------	None	None	None	None	None	None	None	None	None	None
601C:										
Beavercreek------	None	None	None	None	None	None	None	None	None	None
606A:										
Huntsville-------	None	None	None	None	None	None	None	None	None	None
608A:										
Lawson-----------	None	None	None	None	None	None	None	None	None	None
609A:										
Otter------------	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0	Frequent Long Depth: 0.0	Frequent Long Depth: 0.0	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0	Occasional Brief Depth: 0.0
625A:										
Arenzville-------	None	None	None	None	None	None	None	None	None	None
626A:										
Arenzville-------	None	None	None	None	None	None	None	None	None	None
628A:										
Orion------------	None	None	None	None	None	None	None	None	None	None
629A:										
Ettrick----------	Rare Very brief Depth: 0.3	Occasional Brief Depth: 0.3	Frequent Brief Depth: 0.5	Frequent Brief Depth: 0.5	Frequent Brief Depth: 0.5	Occasional Brief Depth: 0.3	Occasional Very brief Depth: 0.3	Occasional Very brief Depth: 0.3	Occasional Very brief Depth: 0.3	Occasional Very brief Depth: 0.3
656A:										
Scotah-----------	None	None	None	None	None	None	None	None	None	None
666A:										
Absco------------	None	None	None	None	None	None	None	None	None	None
676A:										
Kickapoo---------	None	None	None	None	None	None	None	None	None	None
739A:										
Root-------------	None	None	None	None	None	None	None	None	None	None

Table 28.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
743C2:										
Council	None	None	None	None	None	None	None	None	None	None
743D2:										
Council	None	None	None	None	None	None	None	None	None	None
743E2:										
Council	None	None	None	None	None	None	None	None	None	None
1125F:										
Dorerton	None	None	None	None	None	None	None	None	None	None
Elbaville	None	None	None	None	None	None	None	None	None	None
1145F:										
Gaphill	None	None	None	None	None	None	None	None	None	None
Rockbluff	None	None	None	None	None	None	None	None	None	None
1155F:										
Brodale	None	None	None	None	None	None	None	None	None	None
Bellechester	None	None	None	None	None	None	None	None	None	None
Rock outcrop.										
1233F:										
Boone	None	None	None	None	None	None	None	None	None	None
Tarr	None	None	None	None	None	None	None	None	None	None
1658A:										
Algansee	None	None	None	None	None	None	None	None	None	None
Kalmarville	Occasional Brief Depth: 0.3	Occasional Brief Depth: 0.3	Frequent Long Depth: 0.5	Frequent Long Depth: 0.5	Frequent Long Depth: 0.5	Occasional Brief Depth: 0.3	Occasional Brief Depth: 0.3	Occasional Brief Depth: 0.3	Occasional Brief Depth: 0.3	Occasional Brief Depth: 0.3
1743F:										
Council	None	None	None	None	None	None	None	None	None	None
Elevasil	None	None	None	None	None	None	None	None	None	None
Norden	None	None	None	None	None	None	None	None	None	None

Table 28.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and soil name	January	February	March	April	May	June	July	August	September	October
2002. Udorthents, earthen dams										
2003A. Riverwash										
2013. Pits, gravel										
2014. Pits, quarry, hard bedrock										
2020. Urban land, valley trains										
2030: Udorthents, cut or fill.										
Udipsamments, cut or fill.										
2040. Udipsamments, dredge material										
2050. Landfill										
M-W. Miscellaneous water										
W. Water										

Table 29.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature
that data were not estimated)

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
20A:							
Palms	---	>80	---	8-25	25-50	High	Hig
Houghton	---	>80	---	25-30	40-60	High	Hig
21A:							
Palms	---	>80	---	8-25	25-50	High	Hig
30A:							
Adder	---	>80	---	8-25	25-50	High	Hig
110D3:							
Timula	---	>80	---	---	---	High	Low
110E2:							
Timula	---	>80	---	---	---	High	Low
114B2:							
Mt. Carroll	---	>80	---	---	---	High	Mod
115C2:							
Seaton	---	>80	---	---	---	High	Mod
115D2:							
Seaton	---	>80	---	---	---	High	Mod
115E2:							
Seaton	---	>80	---	---	---	High	Mod
116C2:							
Churchtown	---	>80	---	---	---	High	Mod
116D2:							
Churchtown	---	>80	---	---	---	High	Mod
116E2:							
Churchtown	---	>80	---	---	---	High	Mod
126B:							
Barremills	---	>80	---	---	---	High	Mod

Table 29.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
132B2:							
Brinkman----------------	---	>80	---	---	---	High	Mod
132C2:							
Brinkman----------------	---	>80	---	---	---	High	Mod
133B2:							
Valton------------------	---	>80	---	---	---	High	Low
133C2:							
Valton------------------	---	>80	---	---	---	High	Low
133D2:							
Valton------------------	---	>80	---	---	---	High	Low
134C2:							
Lamoille----------------	Bedrock (lithic)	40-100	Indurated	---	---	Moderate	Low
134D2:							
Lamoille----------------	Bedrock (lithic)	40-100	Indurated	---	---	Moderate	Low
163E2:							
Elbaville---------------	Bedrock (lithic)	60-80	Indurated	---	---	Moderate	Mod
202C2:							
Lambeau-----------------	Bedrock (paralithic)	45-80	Weakly cemented	---	---	High	Mod
202D2:							
Lambeau-----------------	Bedrock (paralithic)	45-80	Weakly cemented	---	---	High	Mod
213D2:							
Hixton------------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
213E2:							
Hixton------------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
224B:							
Elevasil----------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low

Table 29.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
224C2:							
Elevasil----------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
224D2:							
Elevasil----------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
233C:							
Boone-------------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Low	Low
253C2:							
Greenridge--------------	Bedrock (paralithic)	45-80	Weakly cemented	---	---	High	Mod
253D2:							
Greenridge--------------	Bedrock (paralithic)	45-80	Weakly cemented	---	---	High	Mod
254C2:							
Norden------------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
254D2:							
Norden------------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
254E2:							
Norden------------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
296B:							
Ludington---------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Low	Mod
312B2:							
Festina-----------------	---	>80	---	---	---	High	Mod
318A:							
Bearpen-----------------	---	>80	---	---	---	High	Hig
326B2:							
Medary------------------	---	>80	---	---	---	Moderate	Hig

Table 29.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
326F:							
Medary-----------------	---	>80	---	---	---	Moderate	Hig
336A:							
Toddville--------------	---	>80	---	---	---	High	Mod
403A:							
Dakota-----------------	---	>80	---	---	---	Moderate	Low
413A:							
Rasset-----------------	---	>80	---	---	---	Moderate	Low
424B:							
Merit------------------	---	>80	---	---	---	Moderate	Low
424D2:							
Merit------------------	---	>80	---	---	---	Moderate	Low
424F:							
Merit------------------	---	>80	---	---	---	Moderate	Low
433B:							
Forkhorn---------------	---	>80	---	---	---	Moderate	Low
434B:							
Bilson-----------------	---	>80	---	---	---	Moderate	Low
434C2:							
Bilson-----------------	---	>80	---	---	---	Moderate	Low
446A:							
Merimod----------------	---	>80	---	---	---	Moderate	Low
456A:							
Bilmod-----------------	---	>80	---	---	---	Moderate	Low
458A:							
Hoop-------------------	---	>80	---	---	---	High	Low
483B2:							
Brice------------------	---	>80	---	---	---	Moderate	Low
501A:							
Finchford--------------	---	>80	---	---	---	Low	Low

Table 29.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
502B2:							
Chelsea----------------	---	>80	---	---	---	Low	Low
502C2:							
Chelsea----------------	---	>80	---	---	---	Low	Low
511B:							
Plainfield-------------	---	>80	---	---	---	Low	Low
511C:							
Plainfield-------------	---	>80	---	---	---	Low	Low
511F:							
Plainfield-------------	---	>80	---	---	---	Low	Low
551A:							
Impact-----------------	---	>80	---	---	---	Low	Low
556A:							
Mindoro----------------	---	>80	---	---	---	Low	Low
561B:							
Tarr-------------------	---	>80	---	---	---	Low	Low
561C:							
Tarr-------------------	---	>80	---	---	---	Low	Low
561F:							
Tarr-------------------	---	>80	---	---	---	Low	Low
562B:							
Gosil------------------	---	>80	---	---	---	Low	Low
562C:							
Gosil------------------	---	>80	---	---	---	Low	Low
566A:							
Tint-------------------	---	>80	---	---	---	Low	Low
568A:							
Majik------------------	---	>80	---	---	---	Moderate	Low
569A:							
Newlang----------------	---	>80	---	---	---	Moderate	Hig

Table 29.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
576B:							
Tintson	---	>80	---	---	---	Low	Low
601C:							
Beavercreek	---	>80	---	---	---	Moderate	Low
606A:							
Huntsville	---	>80	---	---	---	High	Low
608A:							
Lawson	---	>80	---	---	---	High	Mod
609A:							
Otter	---	>80	---	---	---	High	Hig
625A:							
Arenzville	---	>80	---	---	---	High	Mod
626A:							
Arenzville	---	>80	---	---	---	High	Mod
628A:							
Orion	---	>80	---	---	---	High	Hig
629A:							
Ettrick	---	>80	---	---	---	High	Hig
656A:							
Scotah	---	>80	---	---	---	Low	Low
666A:							
Absco	---	>80	---	---	---	Low	Low
676A:							
Kickapoo	---	>80	---	---	---	Moderate	Mod
739A:							
Root	---	>80	---	---	---	High	Hig
743C2:							
Council	---	>80	---	---	---	Moderate	Low
743D2:							
Council	---	>80	---	---	---	Moderate	Low

Table 29.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
743E2:							
Council----------------	---	>80	---	---	---	Moderate	Low
1125F:							
Dorerton---------------	Bedrock (lithic)	45-70	Indurated	---	---	Moderate	Low
Elbaville--------------	Bedrock (lithic)	60-80	Indurated	---	---	Moderate	Mod
1145F:							
Gaphill----------------	Bedrock (paralithic)	40-80	Weakly cemented	---	---	Moderate	Low
Rockbluff--------------	Bedrock (paralithic)	40-80	Weakly cemented	---	---	Low	Low
1155F:							
Brodale----------------	Bedrock (lithic)	40-80	Indurated	---	---	Moderate	Low
Bellechester-----------	Bedrock (paralithic)	40-70	Weakly cemented	---	---	Low	Low
Rock outcrop.							
1233F:							
Boone------------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Low	Low
Tarr-------------------	---	>80	---	---	---	Low	Low
1658A:							
Algansee---------------	---	>80	---	---	---	Low	Low
Kalmarville------------	---	>80	---	---	---	High	Hig
1743F:							
Council----------------	---	>80	---	---	---	Moderate	Low
Elevasil---------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low
Norden-----------------	Bedrock (paralithic)	20-40	Weakly cemented	---	---	Moderate	Low

Table 29.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
2002. Udorthents, darthen dams							
2003A. Riverwash							
2013. Pits, gravel							
2014. Pits, quarry, hard bedrock							
2020. Urban land, valley trains							
2030: Udorthents, cut or fill.							
Udipsamments, cut or fill.							
2040. Udipsamments, dredge material							
2050. Landfill							
M-W. Miscellaneous water							
W. Water							

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal till. Compact till deposited beneath the glacial ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the

lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Beach deposits. Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.

Beach ridge. A low, essentially continuous mound of beach or beach-and-dune material accumulated by the action of waves and currents on the backshore of a beach, beyond the present limit of storm waves or the reach of ordinary tides, and occurring singly or as one of a series of approximately parallel deposits. The ridges are roughly parallel to the shoreline and represent successive positions of an advancing shoreline.

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Board foot. A unit of measurement represented by a board 1 foot wide, 1 foot long, and 1 inch thick.

Bog. Waterlogged, spongy ground, consisting primarily of mosses, containing acidic, decaying vegetation (such as sphagnum, sedges, and heaths) that develops into peat.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. See Terracettes.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Closed depression (map symbol). A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and is without a natural outlet for surface drainage. Typically less than 4 acres.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Cord. A unit of measurement of stacked wood. A standard cord occupies 128 cubic feet with dimensions of 4 feet by 4 feet by 8 feet.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cut or fill area (map symbol). A small area where the original soil profile has been altered by the addition or removal of more than about 1 foot of soil material. Includes former pits that have been reclaimed. Each symbol represents one area or several closely grouped areas totaling less than 4 acres.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Disintegration moraine. A drift topography characterized by chaotic mounds and pits, generally randomly oriented, developed in supraglacial drift by collapse and flow as the underlying stagnant ice melted. Slopes may be steep and unstable. Abrupt changes between materials of differing lithology are common.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Dry spot (map symbol). A small area of moderately well drained to excessively drained soil within a poorly drained or very poorly drained area of mineral soil, or a somewhat poorly drained to excessively drained soil within a map unit consisting mainly of organic soil. Each symbol represents one area or several closely grouped areas totaling less than 4 acres.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

End moraine. A ridgelike accumulation produced at the outer margin of an actively flowing glacier at any given time.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion.

Escarpment, bedrock (map symbol). A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol). A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Exposed material is nonsoil or very shallow soil.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the

movement of firefighters and equipment. Designated roads also serve as firebreaks.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest habitat type. An association of dominant tree and ground flora species in a climax community.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol). An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically less than 4 acres.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol). An area where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter within an area that has less than 15 percent rock fragments. Typically less than 4 acres.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Gully (map symbol). A small channel with steep sides, cut by running water, through which water ordinarily runs only after a rain or after melting of snow or ice. It generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.
E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.
C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.
Cr horizon.—Soft, consolidated bedrock beneath the soil.
R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Ice-walled lake plain. A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net

irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Island (map symbol). A small area of mineral soil within a body of water and above the normal water level. Each symbol represents one island or several closely grouped islands totaling less than 4 acres.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface

of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Perennial water (map symbol). A small, natural or constructed lake, pond, or pit that contains water most of the year. Each symbol represents one area of water or several closely grouped areas of water totaling less than 4 acres.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitted outwash plain. An outwash plain marked by many irregular depressions, such as kettles, shallow pits, and potholes, which formed by melting of incorporated ice masses; common in Wisconsin and Minnesota.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Poletimber. Hardwood trees ranging from 5 to 11 inches in diameter and conifers ranging from 5 to 9 inches in diameter at breast height.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is

neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol). An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock. Each symbol represents one exposure or several closely grouped exposures totaling less than 4 acres.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol). An area where the surface layer is loamy fine sand or coarser within an area where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer. Typically less than 4 acres.

Sapling. A tree ranging from 1 to 5 inches in diameter at breast height.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sawtimber. Hardwood trees more than 11 inches in diameter and conifers more than 9 inches in diameter at breast height.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine

deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Seedling. A tree less than 1 inch in diameter at breast height.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol). A narrow area of soil that is at least two slope classes steeper than the surrounding map unit.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Swale. A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine caused by uneven glacial deposition.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol). An area in which 0.1 to 3.0 percent of the surface is covered by rock fragments more than 10 inches in diameter within an area that does not have rock fragments on the surface. Typically less than 4 acres.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol). An area of somewhat poorly drained to very poorly drained soil at least two drainage classes wetter than the named soils in the surrounding map unit. Each symbol represents one wet area or several grouped wet areas totaling less than 4 acres.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

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